

IMPORTANT MANUAL

Do Not Throw Away

SEARS
Operator's
Manual

- Assembly
- Operation
- Maintenance
- Repair Parts

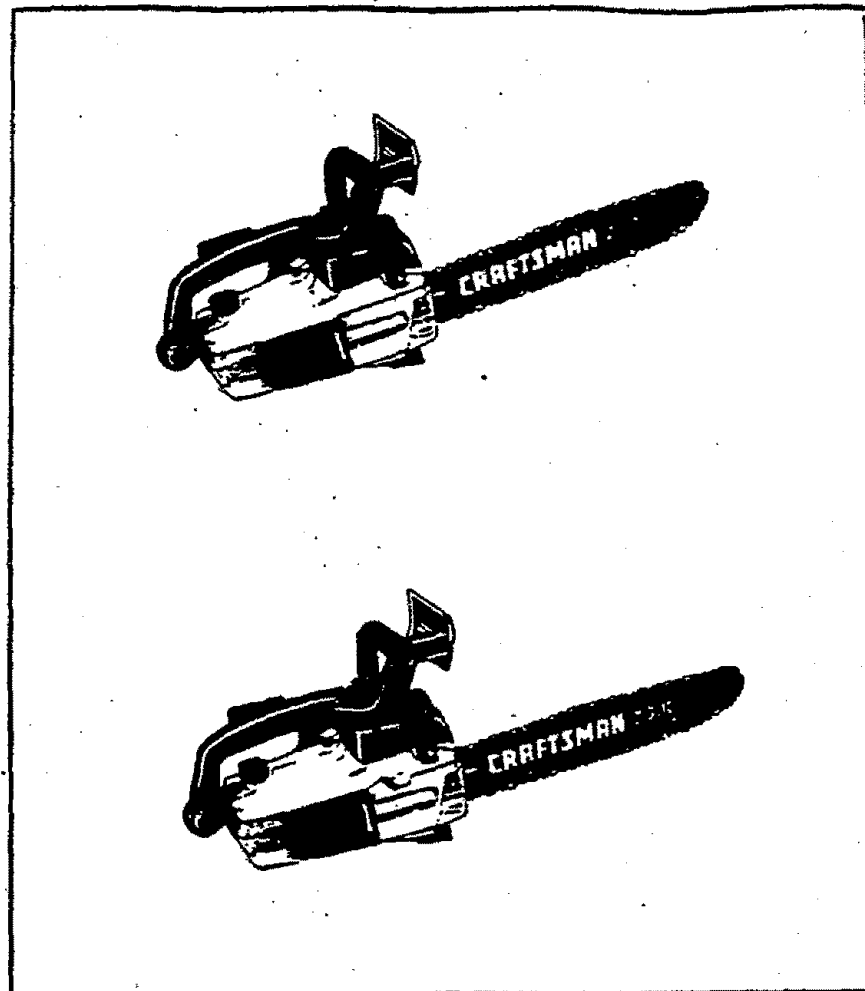
MODEL NO.
358.355063-
2.3/16" CVA

358.357182-
2.3/18" CVA

358.357231-
2.3/18" CVA



▲ WARNING:
Carefully read and follow
Safety Rules, Precautions and
Operating Instructions. Failure
to do so can result in serious
injury.



SEARS CRAFTSMAN®

2.3/16" CVA 2.3/18" CVA
GASOLINE CHAIN SAWS

Record in the space provided below the Model No. and Serial No. of
your saw. These numbers are located on the starting instructions
decal.

Model No. _____ Serial No. _____

Retain these numbers for future reference.

Sears, Roebuck and Co., Chicago, ILL. 60684 U.S.A.

FULL ONE YEAR WARRANTY ON GASOLINE CHAIN SAW
(Excluding Bar, Chain, Spark Plug, Air Filter, and Starter Rope)

For one year from date of purchase, when you maintain, lubricate, and tune up your 2.3 AV gasoline chain saw according to the operating and maintenance instructions in the operator's manual, Sears will repair defects in materials or workmanship in this gasoline chain saw at no charge.

This warranty excludes bar, chain, spark plug, air filter, and starter rope which are expendable parts and become worn during normal use.

If this 2.3 AV gasoline chain saw is used for commercial or rental purposes, this warranty does not apply.

WARRANTY SERVICE IS AVAILABLE BY RETURNING THE CHAIN SAW TO THE NEAREST SEARS SERVICE CENTER/DEPARTMENT IN THE UNITED STATES.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

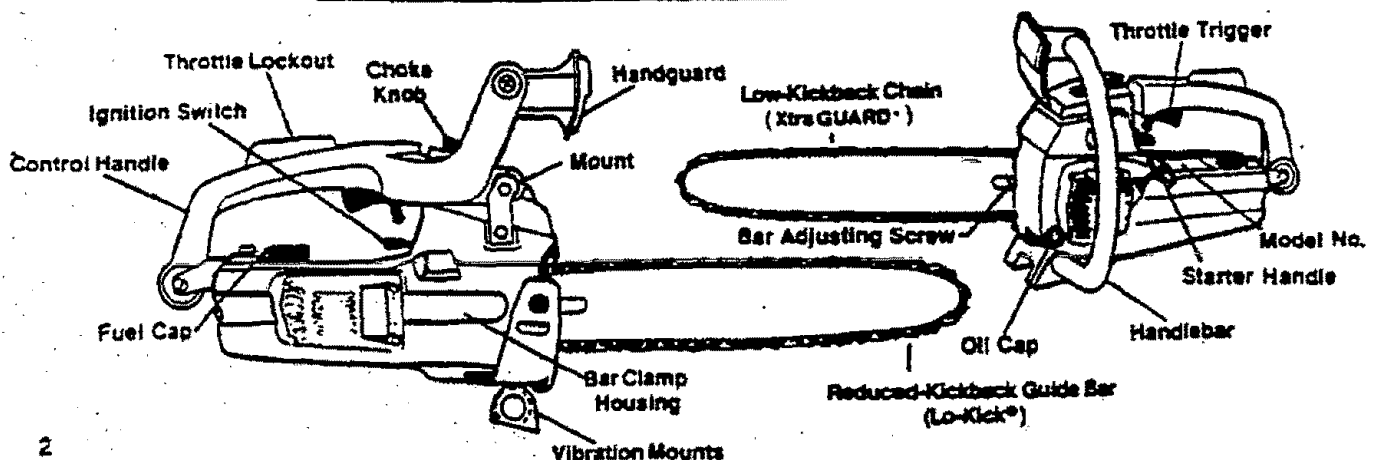
Sears, Roebuck and Co., Dept. D/731 CR-W, Sears Tower, Chicago, IL 60684

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SPECIFICATIONS

MODEL	358356083 (2.3/18")	358357182 (2.3/18") & 358357231 (2.3/18")
CU. IN. DISPLACEMENT	2.3 cu. in.	
GUIDE BAR - LO-KICK®	18" Guide Bar Stock No. 71-36308	18" Guide Bar Stock No. 71-36374
CHAIN - OREGON®	3/8 Pitch Low Profile	3/8 Pitch Low Profile
GUARD LINK	Xtra Guard® Chrome Cutters 56 Drive Links Stock No. 71-36228	Xtra Guard® Chrome Cutters 62 Drive Links Stock No. 71-36118
SPARK PLUG	Champion CJ-8	
SPARK PLUG GAP	.025	
IGNITION	Solid State	
MODULE AIR GAP	.010-.014	
FUEL MIX	Gasoline/Oil Mixture 40:1	
MUFFLER	Sears Arresting/Temperature Limiting	
OILER SYSTEM	Automatic	
FUEL TANK CAPACITY	11.5 oz.	
OIL TANK	6.8 oz.	



SPECIAL SAFETY SECTION

GUARD AGAINST KICKBACK

Kickback is a dangerous reaction that can lead to serious injury. Do not rely only on the safety devices provided with your saw. As a chain saw user, you must follow special safety instructions to help keep your cutting jobs free from accident or injury.

⚠ KICKBACK WARNING

Kickback can occur when the moving chain contacts an object at the upper portion of the tip of the guide bar or when the wood closes in and pinches the saw chain in the cut. Contact at the upper portion of the tip of the guide bar can cause the chain to dig into the object and stop the chain for an instant. The result is a lightning fast, reverse reaction which kicks the guide bar up and back toward the operator. If the saw chain is pinched along the top of the guide bar, the guide bar can be driven rapidly back toward the operator. Either of these reactions can cause loss of saw control which can result in serious injury.

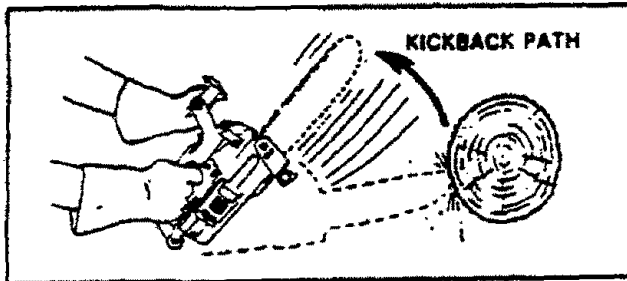


Figure 1

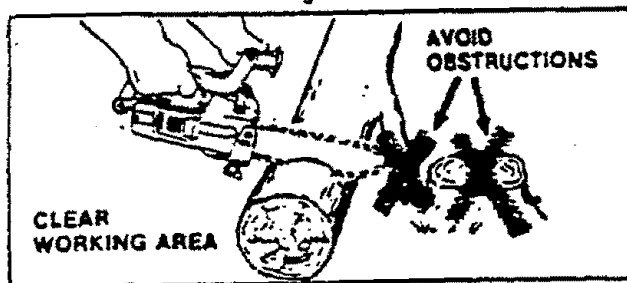


Figure 2

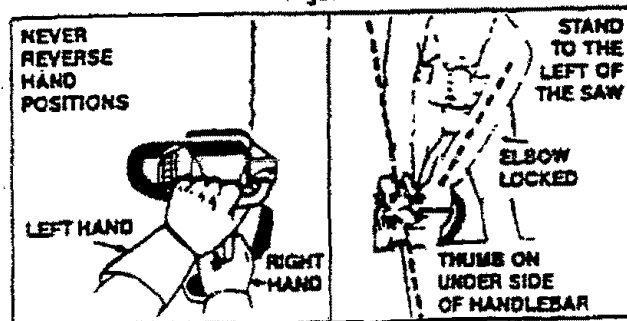


Figure 3

REDUCE THE CHANCE OF KICKBACK

1. Recognize that kickback can happen. With a basic understanding of kickback, you can reduce the element of surprise which contributes to accidents.
2. Never let the moving chain contact any object at the tip of the guide bar. Figure 1.
3. Keep the working area free from obstructions such as other trees, branches, rocks, fences, stumps, etc. Figure 2. Eliminate or avoid any obstruction that your saw chain could hit while you are cutting through a particular log or branch.
4. Keep your saw chain sharp and properly tensioned. Follow manufacturer's chain sharpening and maintenance instructions. Check tension at regular intervals with the engine stopped, never with the engine running. Make sure the bar clamp nuts are securely tightened after tensioning the chain. A loose or dull chain can increase the chance of kickback to occur.
5. Begin and continue cutting at full throttle. If the chain is moving at a slower speed, there is greater chance for kickback to occur.
6. Cut only one log at a time.
7. Use extreme caution when re-entering a previous cut.
8. Do not attempt plunge cuts.
9. Watch for shifting logs or other forces that could close a cut and pinch or fall into the chain.
10. Use the Reduced-Kickback Guide Bar and Low-Kickback Chain specified for your saw.

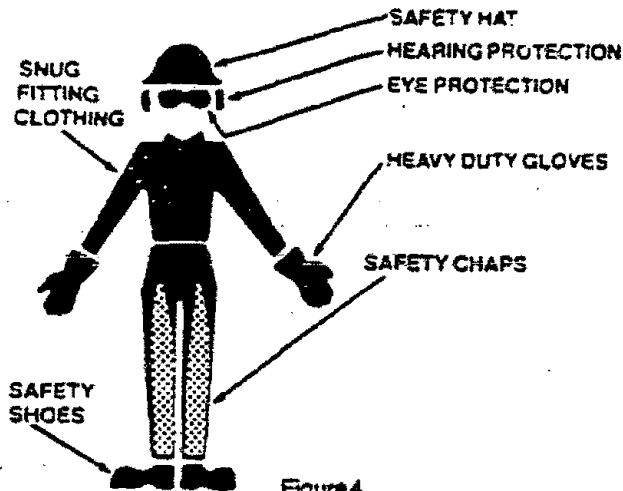
MAINTAIN CONTROL

1. Keep a good firm grip on the saw with both hands when the engine is running and don't let go. Figure 3. A firm grip can neutralize kickback and help you maintain control of the saw. Keep the fingers of your left hand encircling and your left thumb under the front handlebar. Keep your right hand completely around the rear handle whether you are right handed or left handed. Keep your left arm straight with the elbow locked.
2. Position your left hand on the front handlebar so it is in a straight line with your right hand on the rear handle when making bucking cuts. Figure 3. Never reverse right and left hand positions during any type of cutting.
3. Stand with your weight evenly balanced on both feet.
4. Stand slightly to the left side of the saw to keep your body and head from being in a direct line with the cutting chain. Figure 3.
5. Do not overreach. You could be drawn or thrown off balance and lose control of the saw.
6. Never cut above shoulder height. It is difficult to maintain control of the saw above shoulder height and places the chain dangerously close to your upper body.

SPECIAL SAFETY SECTION (continued)

⚠ WARNING

Because a chain saw is a high-speed wood-cutting tool, special safety precautions must be observed to reduce the risk of accidents. Careless or improper use can cause serious injury.



KNOW YOUR SAW

1. Read your Operator's Manual carefully until you completely understand and follow all warnings and safety instructions before attempting to operate the tool.
2. Restrict the use of your saw to adult users who understand and follow the safety rules, precautions and operating instructions found in this manual.

PLAN AHEAD

1. Wear protective gear. Figure 4. Always use steel-toed safety footwear with non-slip soles; snug-fitting clothing; heavy-duty non-slip gloves; eye protection such as non-fogging, vented goggles or face screen; an approved safety hard hat, and sound barriers — ear plugs or muffs to protect your hearing. Regular users should have hearing checked regularly as chain saw noise can damage hearing.
2. Keep children, bystanders, and animals out of the work area — a minimum of 30 feet. Do not allow other people or animals to be near the chain saw when starting or operating the chain saw.
3. Do not handle or operate a chain saw when you are fatigued, ill, or upset; or if you have taken alcohol, drugs or medication. You must be in good physical condition and mentally alert. Chain saw work is strenuous. If you have any condition that might be aggravated by strenuous work, check with your doctor before operating a chain saw.

4. Do not attempt to use your chain saw during bad weather conditions such as strong wind, rain, snow, etc., or at night.
5. Plan your sawing operation carefully in advance. Do not start cutting until you have a clear work area, secure footing, and if you are felling trees, a planned retreat path.

AVOID REACTIVE FORCES

Pinch-Kickback and Pull-in occur when the chain is suddenly stopped by being pinched, caught, or by contacting a foreign object in the wood. This results in a reversal of the chain force used to cut wood and causes the saw to move in the opposite direction of chain rotation. Pinch-Kickback drives the saw straight back toward the operator. Pull-in pulls the saw away from the operator. Either reaction can result in loss of control and possible serious injury.

To avoid Pinch-Kickback:

1. Be extremely aware of situations or obstructions that can cause material to pinch the top of or otherwise stop the chain.
2. Do not cut more than one log at a time.
3. Do not twist the saw as the bar is withdrawn from an under-cut when bucking.

To avoid Pull-in:

1. Always begin cutting with the engine at full throttle and the saw frame against the wood.
2. Use wedges made of plastic or wood (never of metal) to hold the cut open.

HANDLE FUEL WITH CAUTION

1. Eliminate all sources of sparks or flame in the areas where fuel is mixed, poured, or stored. There should be no smoking, open flames, or work that could cause sparks.
2. Mix and pour fuel in an outdoor area, on bare ground; store fuel in a cool, dry, well-ventilated place; and use an approved, marked container for all fuel purposes.
3. Wipe up all spilled fuel before starting your saw.
4. Move at least 10 feet away from fuel and fueling site before starting the engine.
5. Do not smoke while handling fuel or while operating the saw.
6. Turn the engine off and let your saw cool in a non-combustible area, not on dry leaves, straw, paper, etc.
7. Stop engine before removing fuel cap. Allow the engine to cool before refueling.
8. Store tool and fuel in an area where fuel vapors cannot reach sparks or open flames from water heaters, electric motors or switches, furnaces, etc.

To avoid the above listed situations, refer to the "Types of Cutting" section.

SPECIAL SAFETY SECTION (Continued)

OPERATE YOUR SAW SAFELY

1. Do not operate a chain saw that is damaged, improperly adjusted, or not completely and securely assembled.
2. Operate the chain saw only in outdoor areas.
3. Do not operate the saw from a ladder or in a tree.
4. Position all parts of your body to the left of cut and away from the saw chain when the engine is running.
5. Cut wood only. Do not cut metal, plastics, masonry, non-wood building materials, etc. Inspect material to be cut: remove any foreign materials such as nails, wire, etc. Do not use your saw to pry or shove away limbs, roots, or other objects.
6. Make sure the chain will not make contact with any object before starting the engine. Never try to start the saw when the guide bar is in a cut.
7. Use extreme caution when cutting small size brush and saplings. Slender material can catch the saw chain and be whipped toward you or pull you off balance.
8. Be alert for springback when cutting a limb that is under tension so you will not be struck by the limb or saw when the tension in the wood fibers is released.
9. Do not put pressure on the saw at the end of a cut. This can cause you to lose control when the cut is completed.
10. Stop the engine before setting the saw down.

MAINTAIN YOUR SAW IN GOOD WORKING ORDER

1. Have all chain saw service performed by your Sears Service Center/Department with the exception of the items listed in the maintenance section of this manual. For example, if improper tools are used to remove or hold the flywheel when servicing the clutch, structural damage to the flywheel can occur and cause the flywheel to burst.
2. Keep fuel caps and oil caps, screws, and fasteners securely tightened.
3. Keep the handles dry, clean, and free of oil or fuel mixture.
4. Make certain the saw chain stops moving when the throttle trigger is released. For correction, refer to "Carburetor Adjustments."
5. Stop the saw if the chain strikes a foreign object. Check for alignment, binding, breakage, and mounting of moving parts and any other condition that may affect the operation of the unit. Check guards and all other parts to see if each will operate properly and perform its intended function. Any part that is damaged should be properly repaired or replaced by using the instructions in this manual or by seeing your Sears Service Center.
6. Disconnect the spark plug before performing any maintenance except for carburetor adjustments.
7. Never modify your saw in any way. Use only attachments supplied or specifically recommended by Sears.

8. Always replace the handguard immediately if it becomes damaged, broken, or is otherwise removed.
9. Keep the vibration isolators in good condition. Periodically inspect isolators for tears, rips, or separation of the rubber portion from the metal mountings. Have your Sears Service Center/Department replace the isolators if worn or damaged, if vibration increases, or if mounts develop an out of round or swollen shape from exposure to gasoline and/or oil. It is recommended that all isolators be replaced when a failure to one occurs.

CARRY AND STORE YOUR SAW SAFELY

1. Hand carry with the engine stopped, the Muffler away from your body, and the Guide Bar and Chain to the rear covered preferably with a scabbard.
2. Before transporting in any vehicle or storing in any enclosure, allow your saw to cool completely, cover the bar and chain, and properly secure to avoid turnover, fuel spillage, or damage.
3. Before storing the tool, use up fuel left in the carburetor and fuel lines by starting the engine and letting it run until it stops.
4. Store in a dry area out of the reach of children and away from where fuel vapors can reach sparks or an open flame from hot water heaters, furnaces, etc.

THIS SAW IS FOR OCCASIONAL USE ONLY

NOTE: Exposure to vibrations through prolonged use of gasoline powered hand tools could cause blood vessel or nerve damage in the fingers, hands, and wrists of people prone to circulation disorders or abnormal swellings. Prolonged use in cold weather has been linked to blood vessel damage in otherwise healthy people. If symptoms occur such as numbness, pain, loss of strength, change in skin color or texture, or loss of feeling in the fingers, hands, or wrists, discontinue the use of this tool and seek medical attention. An anti-vibration system does not guarantee the avoidance of these problems. Users who operate power tools on a continual and regular basis must monitor closely their physical condition and the condition of this tool.

Notice: Refer to the Code of Federal Regulations, Section 1910.266(5); 2.5.1 of American National Standard Safety Requirements for Pulpwood Logging, ANSI O3.1-1978; and relevant state safety codes when using a chain saw for logging purposes.

KNOW YOUR CHAIN SAW

A. INTRODUCTION

Your saw has been designed with safety in mind and includes the following features as standard equipment:

- Reduced-Kickback Guide Bar (Lo-Kick®)
- Low-Kickback Chain (Xtra-Guard®)
- Spark Arrestor
- Muffler Shield
- Handguard
- Anti-Vibration System

⚠ WARNING

The following features are included on your saw to help reduce the hazard of kickback; however, such features will not totally eliminate this dangerous reaction. As a chain saw user, do not rely only on safety devices. You must follow all safety precautions, instructions, and maintenance in this manual to help avoid kickback and other forces which can result in serious injury.

B. KICKBACK SAFETY FEATURES

- **Reduced-Kickback Guide Bar**, designed with a small radius tip which reduces the size of the kickback danger zone on the bar tip. Figure 5. A Reduced-Kickback Guide Bar is one which has been demonstrated to significantly reduce the number and seriousness of kickbacks when tested in accordance with the safety requirements for gasoline powered chain saws as set by the American National Standards Institute, Inc., Standard B175.1-1985.
- **Low-Kickback Chain**, designed with a contoured depth gauge and guard link which deflect the kickback force and allow wood to gradually ride into the cutter. Figure 5. Low-Kickback Saw Chain is chain which has met the kickback performance requirements of ANSI B175.1 when tested on a representative sample of chain saws below 38 cubic inch displacement specified in ANSI B175.1-1985. (American National Standard for Power Tools - Gasoline Powered Chain Saws - Safety Requirements).
- **Handguard**, designed to reduce the chance of your left hand contacting the chain if your hand slips off the front handlebar.
- **Position of front and rear handlebars**, designed with distance between handles and "in line" with each other. The spread and "in line" position of the handlebars work together to give balance and resistance in controlling the saw if kickback occurs.

⚠ WARNING

Do not operate the chain saw unless the safety devices or their specified replacements are properly installed and maintained according to the instructions in this manual. Do not use any other guide bar and chain combination that is not equivalent to the original equipment or not certified to comply with ANSI B175.1. Failure to follow these instructions can result in serious injury.

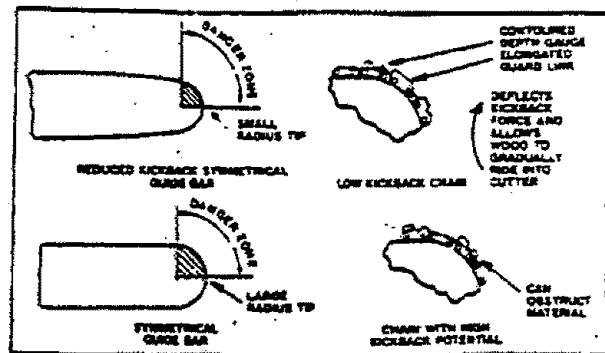


Figure 5

G. STATE AND LOCAL REQUIREMENTS.

For users on U.S. Forest Land and in some states, including California (Public Resources Codes 4442 and 4443), Idaho, Maine, Minnesota, New Jersey, Oregon, and Washington: Certain internal combustion engines operated on forest, brush, and/or grass-covered lands in the above areas, must be equipped with a spark arrestor, maintained in effective working order, or the engine must be constructed, equipped, and maintained for the prevention of fire. Check with your state or local authorities for regulations pertaining to these requirements. Failure to follow these requirements is a violation of the law. This unit is factory-equipped with a spark arrestor. If a spark arrestor is required in your area, you are legally responsible for maintaining the operating condition of these parts (see "Spark Arrestor" in the maintenance section).

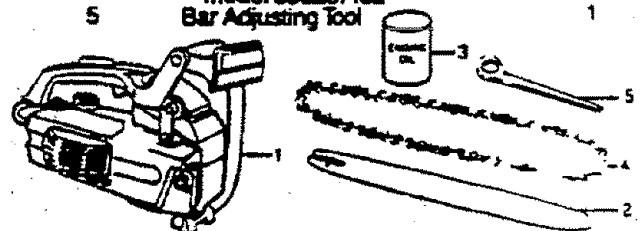
D. CARTON CONTENTS

After you unpack the carton:

1. Check the contents against the list below.
2. Examine the items for damage. Do not use damaged parts.
3. Notify your Sears store immediately if a part is missing or damaged.

NOTE: It is normal to hear the fuel filter rattle in an empty fuel tank.

Key No.	Carton Contents:	Qty.
1	Powerhead	1
2	Guide Bar	1
3	2-cycle Engine Oil	1
—	Operator's Manual (not shown)	1
—	Loose Parts Bag (not shown)	1
Loose Parts Bag Contents:		
4	Chain	1
	Models 358.355063 & 358.357231	1
	Model 358.357182	2
5	Bar Adjusting Tool	1



PREPARING YOUR SAW FOR USE

A. GETTING READY

1. READ YOUR OPERATOR'S MANUAL CAREFULLY.

Your Operator's Manual has been developed to help you prepare your saw for use and to understand its safe operation. It is important that you read your manual completely to become familiar with the saw before you begin assembly.

2. HAVE THE FOLLOWING AVAILABLE:

- Protective gloves.
- Approved, marked fuel container
- One gallon regular unleaded gasoline
- 2-cycle, engine oil
- Bar and Chain Lubricant.
- Bar Adjusting Tool provided with your saw. One end of the tool serves as a wrench; the other can be used as a screwdriver.

B. ATTACHING THE BAR AND CHAIN

CAUTION: Wear protective gloves when handling or operating your saw. The chain is sharp and can cut you even when it is not moving!

- Your saw is equipped with a Reduced-Kickback Guide Bar and a Low-Kickback Chain.
- Use only the Reduced-Kickback Guide Bar and Low-Kickback Chain specified for your chain saw model when replacing these parts. See "Specifications."

WARNING
Do not start engine without guide bar and chain completely assembled. Otherwise, the clutch can come off and serious injury can result.

CAUTION: Wear protective gloves when handling or operating your saw. The chain is sharp and can cut you even when it is not moving!

- Remove the following parts as shown in Figure 6, using the Bar Adjusting Tool.
 - Bar Clamp Nut.
 - Rear Bar Clamp Screw.
 - Bar Clamp Housing.

NOTE: Remove and discard the plastic spacer on the bar stud, if so equipped.

- Turn the Adjusting Screw counterclockwise to move the Adjusting Pin almost as far as it will go to the rear. Figure 6.
- Hold chain with cutters facing as shown in Figure 7 (inset).
- Place chain over and behind the clutch drum, onto the sprocket. Figure 7.
- Place the Guide Bar on the saw by fitting the large slot in the Guide Bar over the Bar Stud. Figure 8.
- Fit the adjusting pin into the adjusting pin hole below the large slot; turn the adjusting screw as needed to position the adjusting pin. Fit the large slot on the Bar Supports on either side of the Bar Stud. Figure 9.
- Fit the chain into the Guide Bar grooves — first, the top groove, and then the bottom groove.

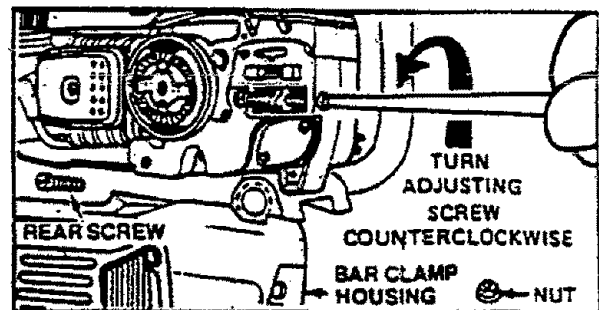


Figure 6

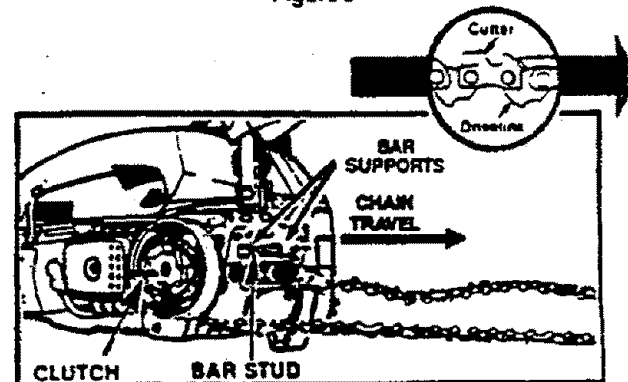


Figure 7

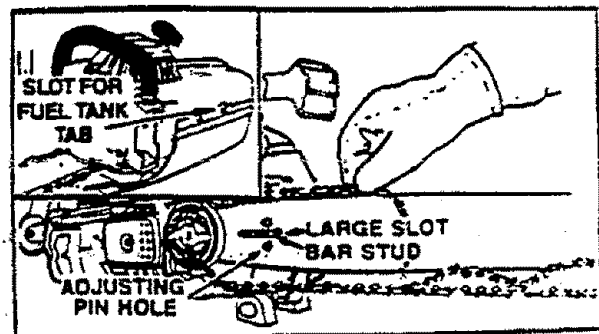


Figure 8

8. Hold the Guide Bar against the saw frame and install the Bar Clamp Housing.
9. Secure the Bar Clamp Housing with the Bar Clamp Nut, finger tight only. Tighten Bar Clamp Nut after chain is tensioned.

CAUTION: Make sure that the tab on the bottom of the fuel tank is aligned in the slot provided in the fan housing. See inset, Figure 6.

10. Replace the Rear Bar Clamp Screw and tighten securely.
11. Follow "Chain Tension" instructions below.

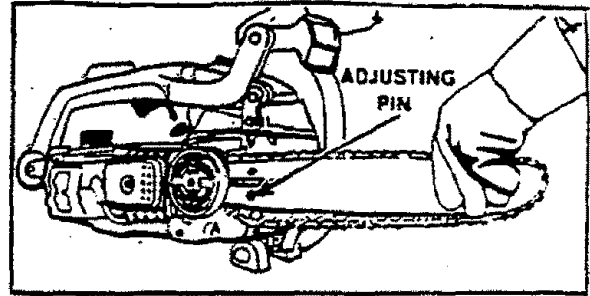


Figure 9

C. CHAIN TENSION

- Chain tension is very important:
 - a loose chain will wear the bar and itself.
 - a loose chain can jump off the bar while you are cutting.
 - a tight chain can break or damage the saw bar.
- The chain stretches during use, especially when new. Check tension:
 - each time the saw is used.
 - more frequently when the chain is new.
 - as the chain warms up to normal operating temperature.

CAUTION: Always wear gloves when handling the chain. The chain is sharp and can cut you even when it is not moving!

- Chain tensioning procedure:

NOTE: Hold up the tip of the Guide Bar through step 4.

 1. Hold the tip of the Guide Bar up and turn the Adjusting Screw clockwise until the chain does not sag beneath the Guide Bar. Figure 10.

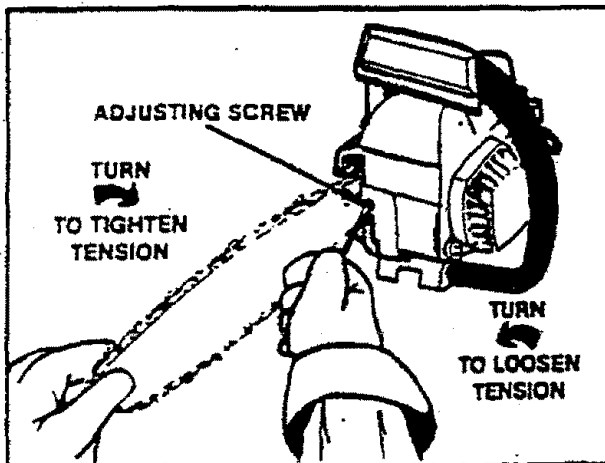


Figure 10

2. Check the tension by lifting the chain from the Guide Bar at the center of the bar. Figure 11.

NOTE: Chain tension is correct when the chain:

- can be lifted about 1/8" from the Guide Bar at a point near the middle of the bar.
- and will move freely around the bar.

When installing a new chain, allow the chain to be lifted 1/4" from the guide bar. Thereafter, follow the instructions as indicated.

3. Continue adjusting the Adjusting Screw until the tension is correct.
4. While holding the tip of the Guide Bar up, tighten the Bar Clamp Nut with the Bar Adjusting Tool.
5. Check the Rear Bar Clamp Screw to be sure it is secure.
6. Recheck chain tension. See Figure 11.

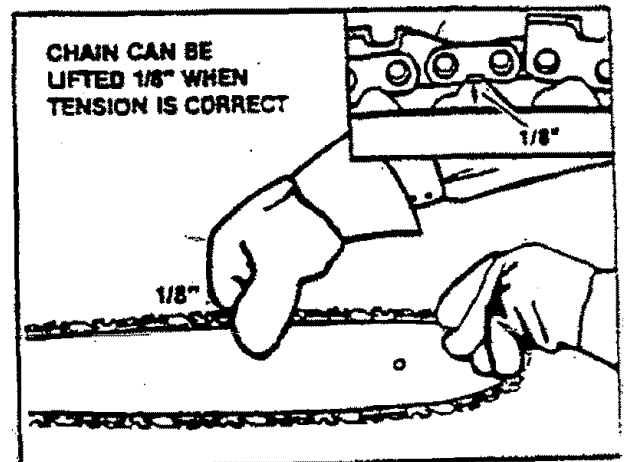


Figure 11

D. FUELING YOUR ENGINE

1. FUEL SAFETY

- Use only recommended fuel mixtures.
- Mix and pour fuel outdoors and where there are no sparks or flames.
- Use a container approved for fuel.
- Do not smoke or allow smoking near fuel or the tool or while using the tool.
- Wipe up all fuel spills before starting engine.
- Move at least 10 feet away from fueling site before starting engine.
- Stop engine before removing fuel cap. Allow the engine to cool before refueling.
- Before storing the tool, use up fuel left in the carburetor and fuel lines by starting the engine and letting it run until it stops.
- Store tool and fuel in an area where fuel vapors cannot reach sparks or open flames from water heaters, electric motors or switches, furnaces, etc.

2. FUEL MIXTURE

- Your tool is powered by a 2-cycle engine which requires a fuel mixture of regular unleaded gasoline and a high quality engine oil specially made for 2-cycle, air cooled engines. The internal design of the 2-cycle engine requires lubrication of moving parts. Lubrication is provided when the recommended mixture of gasoline and oil is used.
- Gasoline must be clean and not over two months old. Gasoline will chemically break down and form compounds that cause hard starting and damage in 2-cycle engines.
- The correct measure of gasoline to oil is very important. Too much oil in the mixture will foul the spark plug.

CAUTION: Too little oil or incorrect oil will cause the engine to overheat and seize.

- Always mix the fuel thoroughly in a container since gasoline and oil do not readily combine. Do not mix gasoline and oil directly in the fuel tank.

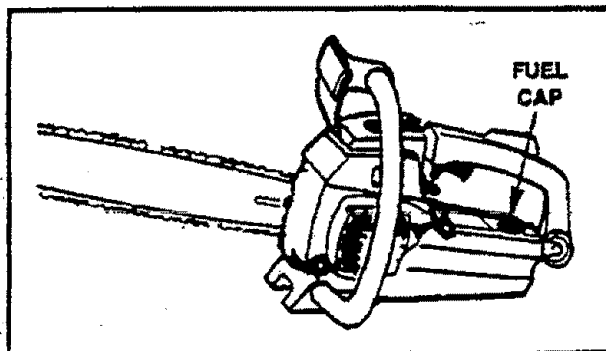
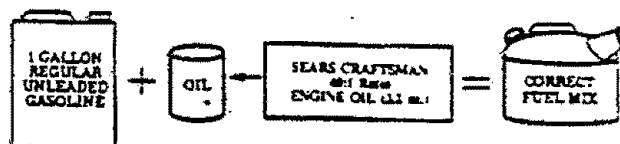


Figure 12

3. USE THE FOLLOWING ONLY:

- 3.2 oz. 40:1, 2-cycle air cooled engine oil to 1 gal. gasoline OR
- 8 oz. 40:1, 2-cycle air cooled engine oil to 2.5 gal. gasoline.

(40 parts gasoline to 1 part oil)



SEARS 2-cycle engine oil mixed at 40:1 is strongly recommended.

If SEARS 2-cycle engine oil is not available, use a good quality, 2-cycle engine oil mixed at a ratio of 16:1 (8 oz. oil to 1 gallon gasoline).

4. DO NOT USE:

- NMMA Oil — National Marine Manufacturers Association (formerly SIA)**
Does not have proper additives for 2-cycle, air-cooled engines and can cause engine damage.
- AUTOMOTIVE OIL —**
Does not have proper additives for 2-cycle, air-cooled engines and can cause engine damage.

CAUTION

Experience indicates that alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. To avoid engine problems, do not leave fuel in the unit when storing for 30 days or longer. Start the engine and let it run until the fuel lines and carburetor are empty. Use fresh fuel next season. See the "Storage" section for additional information. Never use engine or carburetor cleaner products in the fuel tank or permanent damage can occur.

5. HOW TO MIX FUEL AND FILL TANK

- Pour the proper measure of engine oil into an approved fuel container. Then, fill the container with regular unleaded gasoline.

NOTE: If fuel is already in the container, add the proper measure of engine oil. Then, close the container tight and shake it momentarily.

NOTE: Do not mix gasoline and oil directly in the fuel tank.

- Using a spout or funnel, fill the fuel tank with fuel mix.
- Reinstall the fuel cap securely.

E. BAR AND CHAIN LUBRICANT

- The guide bar and cutting chain require constant lubrication to remain in operating condition. Lubrication is provided by the automatic oiler system when the oil tank is kept filled.

— Lack of lubricant will quickly ruin the bar and chain.
— Too little lubricant will cause overheating shown by smoke coming from the chain and/or discoloration of the guide bar rails.

- Use Sears Bar and Chain Lubricant (#71-36554-gal. or #71-36556-qt.) to fill the oil tank. Clean SAE 30W oil may also be used, but is less effective. *Never use waste oil for this purpose.*

- In freezing weather oil will thicken, making it necessary to thin bar and chain oil with a small amount of #1 Diesel Fuel or Kerosene. Bar and chain oil must be free flowing for adequate lubrication.

1. USE THE FOLLOWING:

- | | |
|--------------|---|
| 30° or above | — Lubricant undiluted |
| 30° to 0°F. | — 95% Lubricant to 5%
#1 Diesel fuel or Kerosene. |
| Below 0°F. | — 90% Lubricant to 10%
#1 Diesel fuel or Kerosene. |

2. HOW TO FILL THE OIL TANK

- a. Turn saw on its side with oil cap up. Figure 13.
- b. Loosen cap slowly; wait for pressure in the tank to be released before removing the cap.
- c. Fill the oil tank.
- d. Replace the oil cap securely.

3. IMPORTANT POINTS TO REMEMBER

- a. Fill the oil tank each time you refill the fuel tank to ensure there will be sufficient oil for the chain whenever you start and run the saw.
- b. It is normal for a small amount of oil to appear under the saw after the engine stops due to oil draining from the bar and chain.

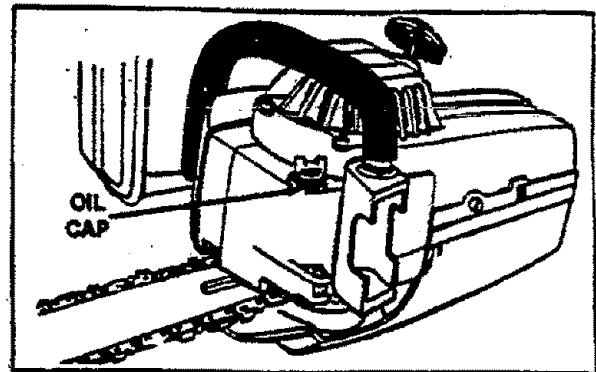


Figure 13

USING YOUR SAW

A. PRE-OPERATION CHECKS

Each time before operating your saw, always:

1. ✓ Check over safety rules and precautions in this manual. Make certain you completely understand and can apply each one.
2. ✓ Check protective gear. Always use eye, hearing, and head protection devices; safety footwear; protective gloves; and snug-fitting clothing.
3. ✓ Check the saw for loose bolts, nuts, or fittings. Tighten, repair or replace parts as necessary. Tools required are listed in the "Assembly" section.
4. ✓ Check the air filter. Clean the filter, if dirty, before starting the engine. For location, see the "Air Filter" section.
5. ✓ Check the saw chain. The chain should be sharp and at the correct tension. (Refer to the "Chain Tension" Section).
6. ✓ Check the fuel tank and oil tank. Both tanks should be filled.
7. ✓ Check the handles. Handles should be dry and free of fuel mixture and oil.
8. ✓ Check weather conditions. Do not use your saw at night or during bad conditions such as strong wind, rain, snow, etc.
9. ✓ Check the work area. Keep children, bystanders, and animals a safe distance away from the work area when starting or operating the saw — a minimum of 30 feet.

B. STARTING INSTRUCTIONS (Refer to "Specifications" for location of controls.)

1. BASIC PROCEDURE

- a. Hold saw firmly with the saw chain free to turn without contacting any object.
- b. Move ignition switch to "Start" position. Figure 15.
- c. Adjust choke according to "Starting Procedure for Varying Conditions (Step 2)".
- d. Squeeze trigger with your right hand while pushing saw away from you and pulling the starter rope with your left hand. Figure 14.
- e. Release the trigger after engine starts, allowing the engine to idle.

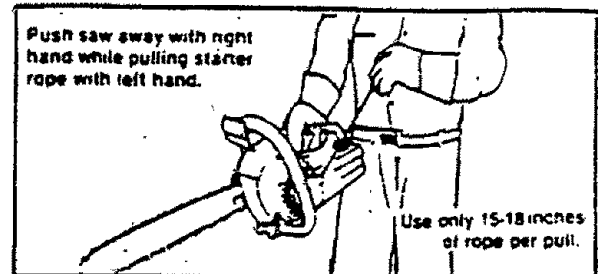


Figure 14

WARNING
The chain must not move when the engine runs at idle speed. Refer to "Carburetor Adjustments," for correction.

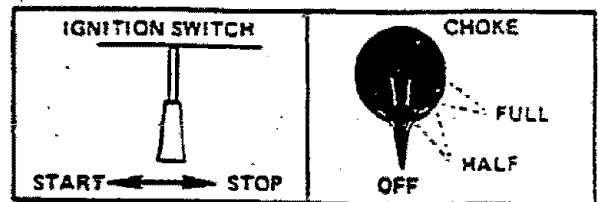


Figure 15

1. Stop engine by moving the ignition switch to the "Stop" position. Figure 15.

WARNING
Always wear gloves; safety footwear; snug-fitting clothing; and eye, hearing, and head protection devices when operating a chain saw.

WARNING
Avoid bodily contact with the muffler when starting or using a warm engine to avoid serious burns.

b. WARM ENGINE

- 1.) Leave choke at the off position. Figure 15.
- 2.) Pull starter rope until engine runs.

c. REFUELED WARM ENGINE AFTER RUNNING OUT OF FUEL

- 1.) Pull choke to full choke position. Figure 15.
- 2.) Pull starter rope until engine attempts to run.
- 3.) Push choke to the off position. Figure 15.
- 4.) Pull starter rope until engine runs.

2. STARTING PROCEDURE FOR VARYING CONDITIONS

NOTE: Be sure to follow "1. Basic Procedure," as described on this page.

a. COLD ENGINE

- 1.) Pull choke to full choke position. Figure 15.
- 2.) Pull starter rope until engine attempts to run.
- 3.) Push choke until half position is felt. Figure 15.
- 4.) Pull starter rope until engine runs.
- 5.) After 5 second warm up, push choke to the off position.

3. IMPORTANT POINTS TO REMEMBER

- a. When pulling the starter rope, do not use the full extent of the rope as this can cause the rope to break. Do not let the starter rope snap back. Hold the handle and let the rope rewind slowly.
- b. If engine floods, let the unit sit for a few minutes then repeat starting procedure using the half choke position.
- c. For cold weather starting, allow engine to warm up (1-2 min.) at the half-choke position, then move choke to the off position. Do not cut with the choke at the "full" or "half" position.

TYPES OF CUTTING

A. BASIC CUTTING TECHNIQUE

1. IMPORTANT POINTS

- a. Cut wood only. Do not cut metal, plastics, masonry, non wood building materials, etc. Do not use your saw to pry or shove away limbs, roots, or other objects.
- b. Stop the saw if the chain strikes a foreign object. Inspect the saw and repair or replace parts as necessary.
- c. Keep the chain out of dirt and sand. Even a small amount of dirt will quickly dull a chain, which increases the possibility of kickback.

▲ KICKBACK WARNING

Kickback can occur when the moving chain contacts an object at the upper portion of the tip of the guide bar or when the wood closes in and pinches the saw chain in the cut. Contact at the upper portion of the tip of the guide bar can cause the chain to dig into the object and stop the chain for an instant. The result is a lightning fast, reverse reaction which kicks the guide bar up and back toward the operator. If the saw chain is pinched along the top of the guide bar, the guide bar can be driven rapidly back toward the operator. Either of these reactions can cause loss of control which can result in serious injury.

2. UNDERSTAND REACTIVE FORCES

Pinch-Kickback and Pull-In occur when the chain is suddenly stopped by being pinched, caught, or by contacting a foreign object in the wood. This results in a reversal of the chain force used to cut wood and causes the saw to move in the opposite direction of chain rotation. Either reaction can result in loss of control and possible serious injury.

- Pinch-Kickback
 - occurs when the chain on top of the bar is suddenly stopped when the top of the bar is used for cutting.
 - rapidly drives the saw straight back toward the operator.
- Pull-In —
 - can occur when the chain on the bottom of the bar is suddenly stopped.
 - pulls the saw rapidly forward.

3. PROCEDURE

Practice cutting a few small logs using the following technique to get the "feel" of using your saw before you begin a major sawing operation.

- a. Accelerate the engine to full throttle just before entering the cut by squeezing the throttle trigger.
- b. Begin cutting with the saw frame against the log as shown in Figure 16.
- c. Keep the engine at full throttle the entire time you are cutting.
- d. Allow the chain to cut for you; exert only light downward pressure. If you force the cut, damage to the bar, chain, or engine can result.
- e. Release the throttle trigger as soon as the cut is completed, allowing the engine to idle. If you run the saw at full throttle without a cutting load, unnecessary wear can occur to the chain, bar, and engine.
- f. Do not put pressure on the saw at the end of the cut to avoid losing control when the cut is complete.
- g. Stop the engine before setting the saw down after cutting.
- h. Stay on the uphill side of the terrain to avoid injury if the tree rolls or slides downhill after it is felled. Figure 16.

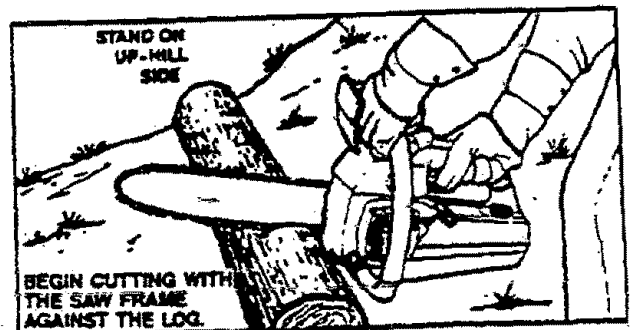


Figure 16

B. TREE FELLING TECHNIQUES

1. PLAN YOUR SAWING OPERATION CAREFULLY IN ADVANCE

- a. Clear the work area. You need a clear area all around the tree where you can have secure footing.
- b. Study the natural conditions that can cause the tree to fall in a particular direction:
 - 1.) The WIND direction and speed.
 - 2.) The LEAN of the tree.
 - 3.) WEIGHTED with BRANCHES on one side.
 - 4.) Surrounding TREES and OBSTACLES.
- c. Look for decay and rot. If the trunk is rotted, it can snap and fall toward the operator.
- d. Check for broken or dead branches which could fall on you while cutting.
- e. Make sure there is enough room for the tree to fall. Maintain a distance of 2½ tree lengths from the nearest person or other objects. Engine noise can drown out a warning call.
- f. Remove dirt, stones, loose bark, nails, staples, and wire from the tree where cuts are to be made.
- g. Plan to stand on the up-hill side when cutting on a slope.
- h. Plan a clear retreat path to the rear and diagonal to the line of fall. Figure 17.

⚠ WARNING

DO NOT CUT:

- near electrical wires or buildings.
- if you do not know the direction of tree fall.
- at night since you will not be able to see well.
- during bad weather — strong wind, snow, rain, etc.

2. FELLING SMALL TREES — LESS THAN 6" IN DIAMETER

- a. If you know the direction of fall:
 - 1.) Make a single, horizontal felling cut on the side away from the direction of the fall.
 - 2.) Cut all the way through.
 - 3.) Stop the saw, put it down, and get away quickly on your planned retreat path.
- b. If you are not sure which way the tree will fall, use the notch method described for felling large trees.

3. FELLING LARGE TREES — 6" DIAMETER OR MORE

The notch method is used to cut large trees. A notch is cut on the side of the tree in the desired direction of fall. After a felling cut is made on the opposite side of the tree, the tree will tend to fall into the notch.

NOTE: If the tree has large buttress roots, remove before making the notch. Cut into the buttresses vertically, then horizontally. Figure 18.

- a. Make the notch cut. Figure 19.

- Cut 1.) Cut the bottom of the notch first, through 1/3 of the diameter of the tree.
- Cut 2.) Complete the notch by making the slant cut. Remove the notch of wood.

- b. Make the felling cut. Figure 20.

- Cut 3.) Cut on the opposite side of the notch about 2" higher than the bottom of the notch.

DON'T PUT YOURSELF IN THESE POSITIONS



- c. Leave enough uncut wood between the felling cut and the notch to form a hinge. Figure 20.

NOTE: The hinge helps to keep the tree from twisting and falling in the wrong direction.

- d. Use a wedge if there is any chance that the tree will not fall in the desired direction.

NOTE: Before the felling cut is complete, drive wedges to open up the cut when necessary to control the direction of fall. Use wood or plastic wedges but never metal to avoid kickback and chain damage.

- e. Be alert for signs that the tree is ready to fall:

- 1.) cracking sounds
- 2.) widening of the felling cut
- 3.) movement in the upper branches.

- f. As the tree starts to fall, remove and stop the saw, put it down, and get away quickly on your planned retreat path.

- g. Be extremely cautious with partially fallen trees that may be poorly supported. When a tree doesn't fall completely, set the saw aside and pull down the tree with a cable winch, block and tackle, or tractor. To avoid injury, do not cut down a partially fallen tree with your saw.

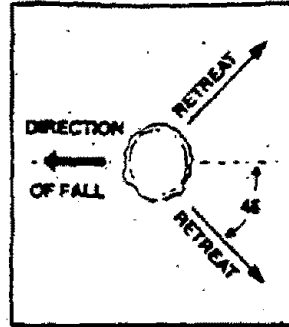


Figure 17



Figure 18

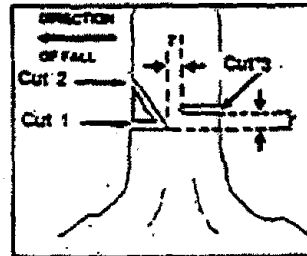


Figure 19

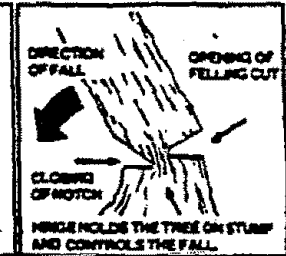


Figure 20

WARNING

Stay on the uphill side of the terrain to avoid injury if the tree rolls or slides downhill after it is felled. Figure 16.

C. BUCKING

Bucking is the term used for cutting a fallen tree to the desired log size.

1. IMPORTANT POINTS

- a. Cut only one log at a time.
- b. Cut shattered wood very carefully. Sharp pieces of wood could be flung toward the operator.
- c. Use a sawhorse to cut small logs. Never allow another person to hold the log while cutting, and never hold the log with your leg or foot.
- d. Give special attention to logs under strain to prevent the saw from pinching. Make the first cut on the pressure side to relieve the stress on the log. Figure 21.
- e. Do not cut in an area where logs, limbs, and roots are tangled, such as in a blown down area. Drag the logs into a clear area before cutting by pulling out exposed and cleared logs first.
- f. Make the first bucking cut 1/3 of the way through the log and finish with a 2/3 cut on the opposite side. As the log is being cut, it will tend to bend. The saw can become pinched or hung in the log if you make the first cut deeper than 1/3 of the diameter of the log.

WARNING

Never turn the saw upside down to undercut. The saw cannot be controlled in this position.

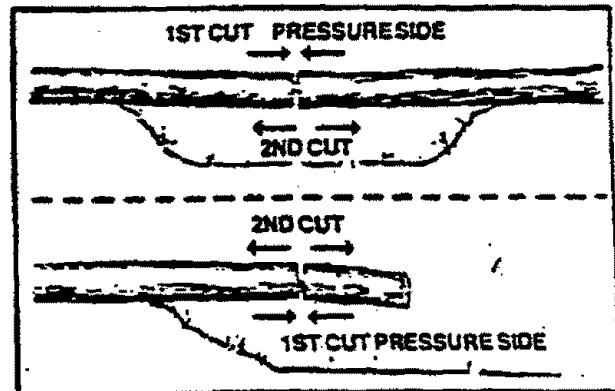


Figure 21

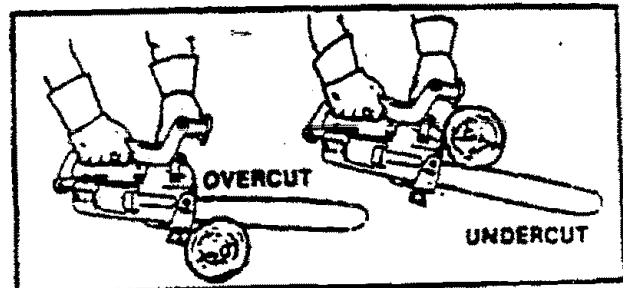


Figure 22

2. TYPES OF CUTTING USED Figure 22

- Overcutting — begin on the top side of the log with the bottom of the saw against the log; exert light pressure downward.
- Undercutting — begin on the under side of the log with the top of the saw against the log; exert light pressure upward. During undercutting, the saw will tend to push back at you. Be prepared for this reaction and hold the saw firmly to maintain control.

⚠ WARNING

If saw becomes pinched or hung in a log, don't try to force it out. You can lose control of the saw resulting in serious injury and/or damage to the saw. Stop the saw; drive a wedge of plastic or wood into the cut until the saw can be removed easily. Figure 23. Restart the saw and carefully reenter the cut. To avoid kickback and chain damage, do not use a metal wedge. Do not attempt to restart your saw when it is pinched or hung in a log.

3. BUCKING—WITHOUT A SUPPORT (Figure 23)

- Overcut with a 1/3 diameter cut.
- Roll log over and finish with an overcut.

4. BUCKING — USING ANOTHER LOG AS A SUPPORT (Figure 24):

⚠ WARNING

Do not stand on the log being cut. Any portion can roll causing loss of footing and control.

- In area A:
 - Undercut 1/3 of the way through the log
 - Finish with an overcut.
 - In area B:
 - Overcut, 1/3 of the way through the log.
 - Finish with an undercut.
- ## 5. BUCKING — USING A STAND (Figure 25):
- In area A:
 - Undercut 1/3 of the way through the log.
 - Finish with an overcut.
 - In area B:
 - Overcut 1/3 of the way through the log.
 - Finish with an undercut.

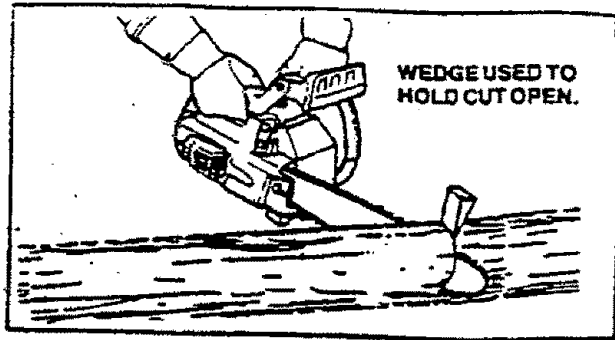


Figure 23

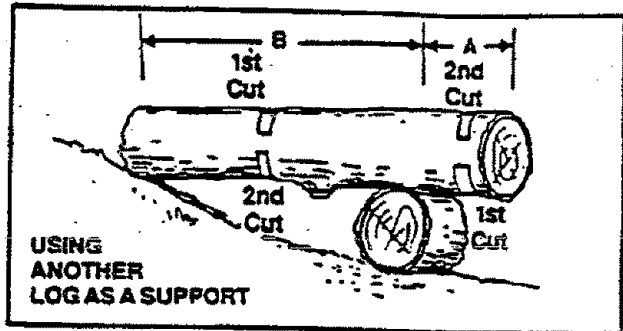


Figure 24

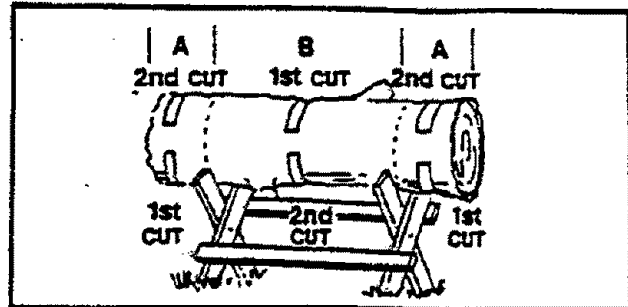


Figure 25

D. DEBRANCHING AND PRUNING

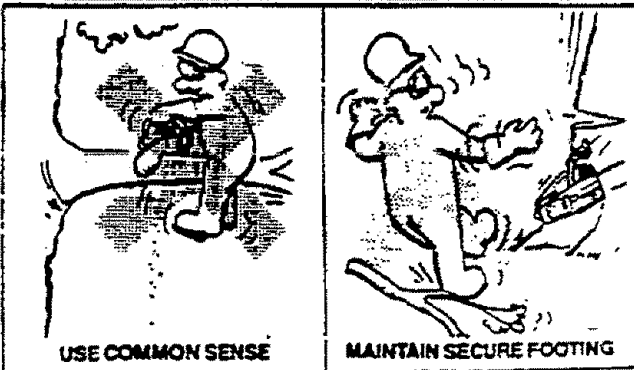
- Work slowly, keeping both hands firmly gripped on the saw. Maintain secure footing and balance.
- Watch out for springpoles. Use extreme caution when cutting small size limbs. Slender material can catch the saw chain and be whipped toward you or pull you off balance.
- Be alert for springback. Watch out for branches that are bent or under pressure as you are cutting to avoid being struck by the branch or the saw when the tension in the wood fibers is released.
- Keep a clear work area. Frequently clear branches out of the way to avoid tripping over them.

⚠ WARNING

Never climb into a tree to debranch or prune. Do not stand on ladders, platforms, a log, or in any position which can cause you to lose your balance or control of the saw.

⚠ WARNING

Be alert for and guard against kickback. Do not allow the moving chain to contact any other branches or objects at the nose of the guide bar when debranching or pruning. Allowing such contact can result in serious injury.



1. DEBRANCHING

- Always debranch a tree *after* it is cut down. Only then can debranching be done safely and properly.
- Leave the larger limbs underneath the felled tree to support the tree as you work.
- Start at the base of the felled tree and work toward the top, cutting branches and limbs. Remove small limbs with one cut. Figure 26.
- Keep the tree between you and the chain. Cut from the side of the tree opposite the branch you are cutting.
- Remove larger, supporting branches with the 1/3, 2/3 cutting techniques described in the bucking section.
 - Start with an undercut.
 - Finish with an overcut.
- Always use an overcut to cut small and freely hanging limbs. Undercutting could cause limbs to fall and pinch the saw.

- Undercut 1/3 of the way through the limb near the trunk of the tree.
- Finish with an overcut farther out from the trunk.
- Keep out of the way of the falling limb.
- Cut the stump flush near the trunk of the tree.

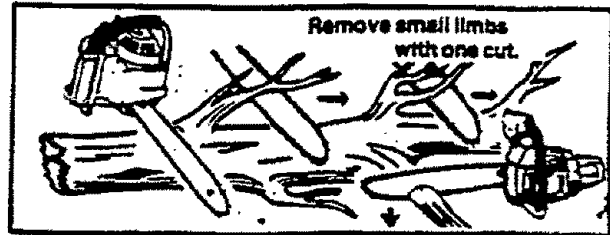


Figure 26

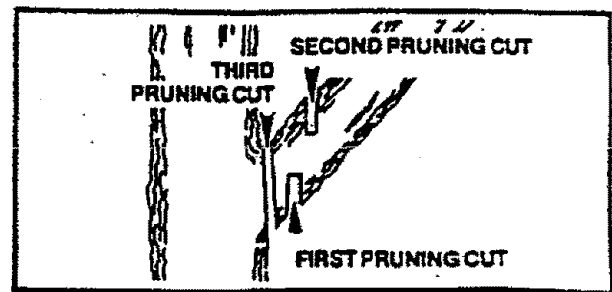


Figure 27

2. PRUNING

- Limit pruning to limbs shoulder height or below. Do not cut if branches are higher than your shoulder. Get a professional to do the job.
- Refer to Figure 27 for the pruning technique.

MAINTENANCE

A good maintenance program of regular inspection and care will increase the service life and help to maintain the safety and performance of your saw.

- Make all adjustments or repairs (except carburetor adjustments) with:
 - spark plug wire disconnected
 - engine cool as opposed to a unit that has just been run.

- Check the saw for loose bolts, screws, nuts, and fittings regularly. Loose fasteners can cause an unsafe condition as well as damage to your saw.

WARNING

Have all chain saw service (other than the items listed in the maintenance section of this manual) performed by your Sears Service Center/Department.

A. GUIDE BAR AND CHAIN

Increase the service life of your Guide Bar and Chain by:

- Using the saw properly and as recommended in this manual.
- Maintaining correct Chain Tension. See "Chain Tension" section.
- Proper lubrication. See "Bar and Chain Lubricant."
- Regular maintenance as described in this section.

1. CHAIN MAINTENANCE

- Sharpen the chain when:
 - wood chips are small and powdery. Wood chips made by the saw chain should be about the size of the teeth of the chain.
 - saw has to be forced through the cut.
 - saw cuts to one side.

CAUTION: Always wear gloves when handling the chain. The chain is sharp enough to cut you even though it is too dull to cut wood.

a. SHARPENING INSTRUCTIONS -

Items required:

Gloves Flat file
5/32" dia. file Depth Gauge Tool
6" file holder

- Stop engine.
- Adjust the chain for proper tension. See "Chain Tension" section.
- Work at the midpoint of the bar, moving the chain forward by hand as each cutter is filed.

4.) Sharpen cutters.

- a.) Position flat side of file holder (with 5/32" round file) on cutter top plate and depth gauge. Figure 28.
- b.) Hold the file holder level with the 30° guide mark parallel to the center of the chain. Figure 29.
- c.) File from inside toward outside of cutter, straight across, on forward stroke only. Use 2 or 3 strokes per cutting edge. Figure 29.
- d.) Keep all cutters the same length. Figure 30.
- e.) File enough to remove any damage to cutting edge (side & top plate) of cutter. Figure 30.
- f.) File chain to meet specifications shown in Figure 31.

⚠ WARNING
 Maintain the proper hook angle according to the manufacturer's specification for the chain you are using. Improper hook angle will increase the chance of kickback which can result in serious injury. Figures 37 & 39.

5.) Correct Depth Gauges

- a.) Place depth gauge tool (Catalog No. 71-36557) over each cutter depth gauge. Figure 32.
- b.) File level with the flat file if depth gauge is higher than the depth gauge tool.
- c.) Maintain rounded front corner of depth gauge with a flat file. Figure 32 & 33.

NOTE: The very top of the depth gauge should be flat with the front half rounded off with a flat file.

⚠ WARNING
 Depth gauge tool is required to insure proper depth gauge. Filing the depth gauge too deep will increase the chance of kickback which can result in serious injury.

b. CHAIN REPLACEMENT

- 1.) Use only the Low-Kick Chain specified for your saw in "Specifications," for replacement chain.
- 2.) Replace the chain when cutters or links break.
- 3.) Contact your Sears Service Center/Department to replace and sharpen individual cutters for matching your chain.
- 4.) Always have a worn sprocket replaced by your Sears Service Center/Department when installing a new chain to avoid excessive wear to the chain.

2. GUIDE BAR MAINTENANCE

- Conditions which can require guide bar maintenance:
 - saw cuts to one side
 - saw has to be forced through a cut
 - inadequate supply of oil to bar and chain.
- Check the condition of the guide bar each time the chain is sharpened. A worn guide bar will damage the chain and make cutting more difficult. Reverse bar after every cleaning.
- Replace the guide bar when:
 - the inside groove of the guide bar rails is worn.
 - the guide bar is bent or cracked.

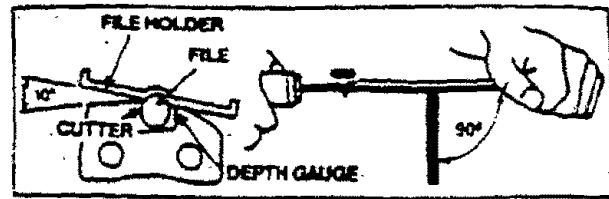


Figure 28

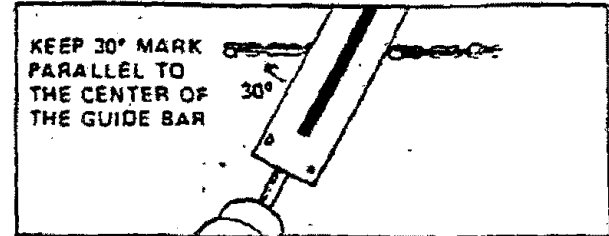


Figure 29

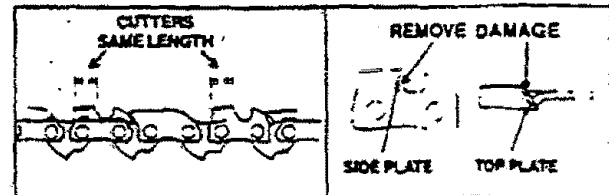


Figure 30

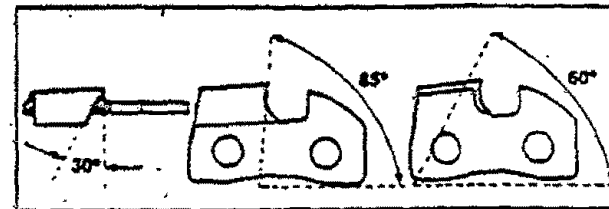


Figure 31

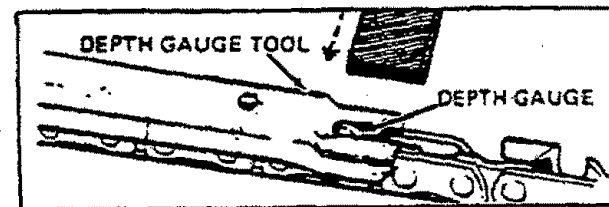


Figure 32

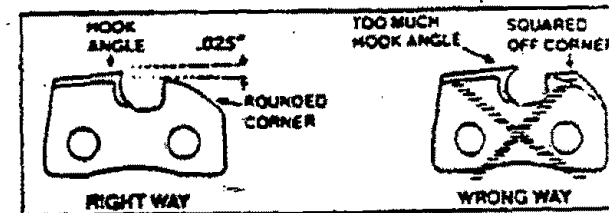


Figure 33

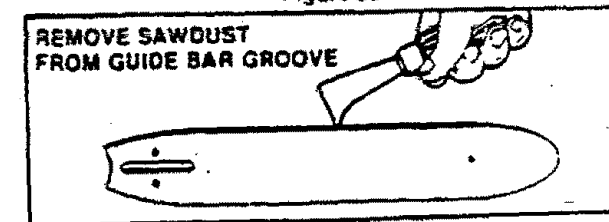


Figure 34

- Use only the Reduced-Kickback Guide Bar specified for your saw in "Specifications."

- Remove the guide bar to service.
- Clean oil holes at least once for each five hours of operation.
- Remove sawdust from the guide bar groove periodically with a putty knife or a wire. Figure 34.
- Remove burrs by filing the side edges of the guide bar grooves square with a flat file. Figure 35.



Figure 35

- Restore square edges to an uneven rail top by filing with a flat file. Figure 35.

B. AIR FILTER

- A dirty air filter:
 - reduces cutting power
 - increases fuel consumption
- Clean the air filter:
 - Frequently, especially under very dusty conditions.
 - Always after 10 tanks of fuel mixture or 5 hours of operation, whichever is less.

CAUTION: To avoid creating a fire hazard, do not use gasoline or any other flammable liquid to clean the filter.

- Clean off the carburetor cover and the area around it to keep dirt and sawdust from falling into the carburetor chamber when the cover is removed.
- Remove the carburetor cover screws and carburetor cover. Figure 36.
- Pull out the air filter.
- Wash the filter in soap and water.

CAUTION: Do not use gasoline or other flammable liquid to clean the filter to avoid creating a fire hazard.

- Squeeze the filter dry.
- Add a small amount of oil to coat the filter.

NOTE: Avoid soaking the filter with oil.

- Squeeze out excess oil.
- Replace filter by tucking in edges and smoothing it flush with the carburetor housing.

NOTE: Be careful when replacing the carburetor cover as incorrect placement will prevent the choke from working properly.

- Move the choke knob all the way to the right.
- Check the choke shutter to be sure it is closed. Figures 36 & 43.
- Reinstall the carburetor cover and tighten the carburetor cover screws.
- Check the operation of the choke.

NOTE: If the choke knob sticks or will not move, remove the cover and repeat steps 11 and 12 above.

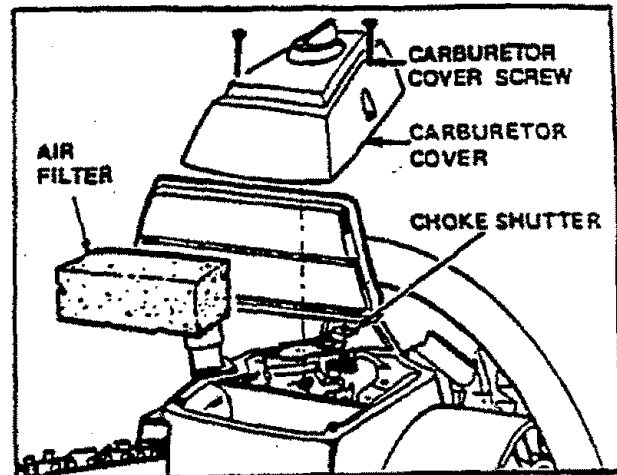


Figure 36

C. SPARK ARRESTOR

- Carbon deposits build up on the spark arrestor as the saw is used and must be removed to avoid creating a fire hazard or causing engine damage.
- Replace the spark arrestor if breaks occur.
- Keep the spark arrestor clean at all times.

Clean:

 - as required
 - at least once for each 25-30 hours of operation

Items required: wire brush, 3/8" wrench

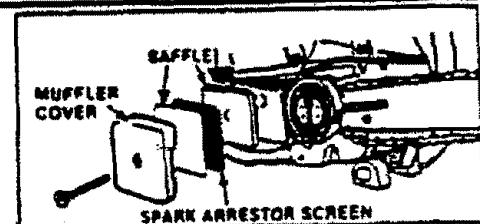


Figure 37

- Disconnect the spark plug wire.
- Remove the Muffer Cover. Figure 37.
- Remove the screen from the baffle.
- Clean the screen with a wire brush or replace if breaks are found.
- Reassemble parts.

D. STARTER ROPE

- Replace a starter rope that breaks.



⚠ WARNING

Always wear eye protection when servicing the starter rope. The recoil spring beneath the pulley is under tension. If the spring pops out, serious injury can result.

NOTE: The recoil spring, located beneath the pulley, is under tension. If spring pops out, it will require considerable time and effort to reinstall. For this reason, you may want to let your Sears Service Center/Department handle this repair. If you do try to repair the starter rope and the recoil spring pops out, take the saw to your Sears Service Center/Department.

1. Drain the fuel tank.
2. Remove the fan housing screw on the bottom of the saw and the two screws on the side of the fan housing.
3. Remove the large screw at the rear of the control handle and the small screw directly below it. Figure 39.
4. Separate the fan housing from the engine.
5. If starter rope is not broken, release the spring tension by pulling about 10 inches of rope from the pulley and catch the rope in the notch as shown. Figure 40. Turn the pulley counterclockwise until the spring tension is released.
NOTE: The tension on the starter spring will be released if the rope is broken.
6. Remove screw and pulley very carefully. Figure 41. The recoil spring which lies beneath the pulley must stay in the housing, flat against the bottom. If the spring is disturbed, it will require considerable time and effort to reinstall. Twist the pulley gently counterclockwise as you pull up to release the spring.
7. Loosen retaining screw and remove old rope. Figure 41.
8. Move away from the fuel tank with the rope to be installed. Use a match and melt both ends of the rope to prevent fraying.
9. Pull the melted ends through a thick, clean rag while the rope is still hot to obtain smooth, pointed tips.
10. Insert one end of the rope through the handle and secure with a knot. Leave $\frac{3}{16}$ " pigtail behind knot. Figure 40 (inset).
11. Insert the free end of the rope through the rope exit hole into the inside of the fan housing.
12. Guide rope inside pulley, then up through the pulley hole to the outside by pushing the rope through from the hole on the spring cam side with a small Phillips screwdriver. Figure 41 (inset).
13. Wrap rope counterclockwise around pulley ratchet and tuck loose end back under rope leaving a 1 inch tail between the retainer rib and screw post. Tighten retaining screw. Figure 41.
NOTE: Do not overtighten the rope retaining screw. Overtightening the screw can cause the screw post to strip out. Tighten the screw until the bottom of the washer is snug against the rope.
14. Wind all but about 10 inches of the rope clockwise around the pulley.

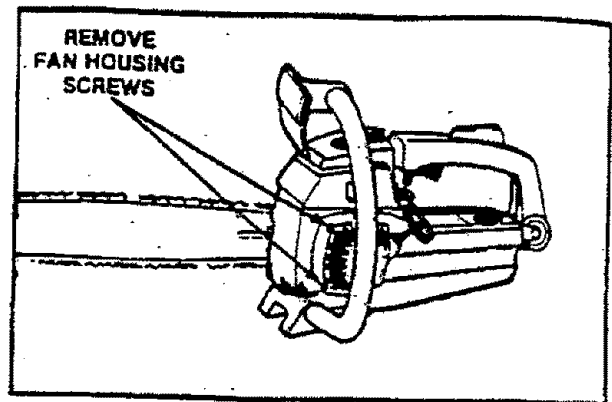


Figure 38

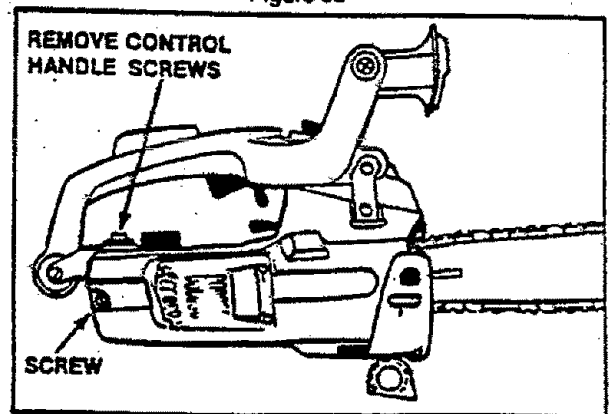


Figure 39

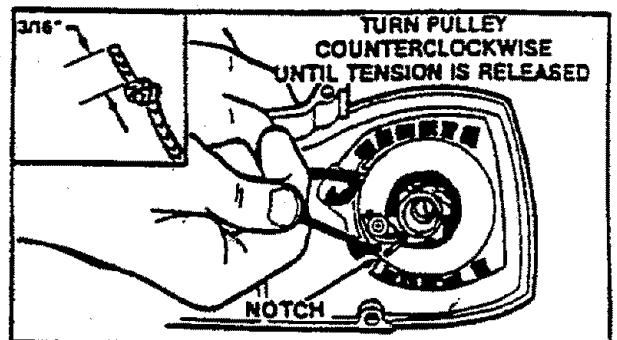


Figure 40

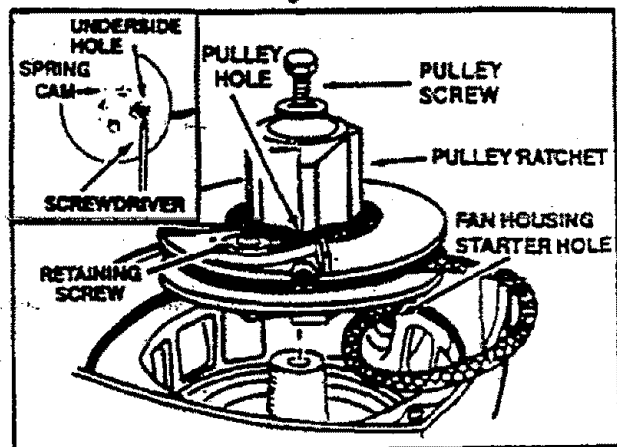


Figure 41

15. Replace pulley in the housing. Be sure the pulley is all the way down and the spring is secured.
16. Replace and tighten pulley screw. Figure 41.
17. Hold the 10 inch slack in the rope and catch rope in pulley notch. Figure 42.
18. Hold the rope taut and make 2 complete turns of the pulley clockwise to place tension on the pulley. Hold the pulley to retain tension.
19. Align pulley notch with rope exit hole, pull starter handle to the full extent of the rope, and allow the rope to rewind slowly.
20. Reinstall the fan housing.

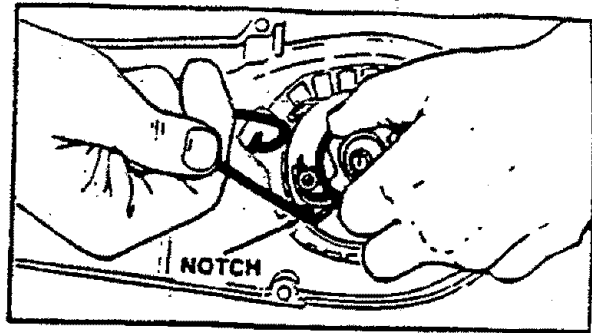


Figure 42

E. CARBURETOR ADJUSTMENTS

- The carburetor has been adjusted at the factory for sea level conditions. Adjustments may become necessary if the saw is used at significantly higher altitudes or if you notice any of the following conditions:

NOTE: Be sure to properly prepare the saw as described in "1. Preparation," below before making any adjustments.

- Chain moves when the engine runs at idle speed. See "2. Idle Speed Adjustment."
- Saw will not idle. See "2. Idle Speed Adjustment" and "3. Low Speed Mixture Adjustment."
- Loss of cutting power which is not corrected by air filter cleaning. See "5. High Speed Mixture Adjustment."
- Engine dies or hesitates when it should accelerate. See "4. Acceleration Adjustment."

CAUTION: Permanent damage will occur to any 2-cycle engine if incorrect carburetor adjustments are made.

- If the engine will not operate properly after making these adjustments, take the saw to your Sears Service Center/Department.

⚠ WARNING

The chain may be moving during most of this procedure. Wear your protective gear and follow all safety instructions.

1. PREPARATION

- a. Stop engine.
- b. Use a fresh fuel mixture with proper gasoline/oil ratio.
- c. Place the saw on a solid, flat surface and make sure the chain will not contact any object.
- d. Remove the carburetor cover screws and carburetor cover (Figure 36) and locate the three (3) carburetor adjusting screws. Figure 43.
- e. Start the engine and allow engine to idle 3 minutes to warm up. The engine must be at operating temperature for proper adjustments to be made.

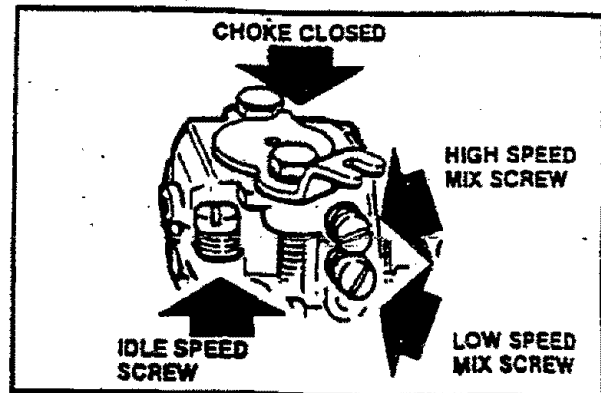


Figure 43

2. IDLE SPEED ADJUSTMENT

- a. Allow engine to idle.
- b. Adjust Idle Speed Screw until engine continues to run without stalling and without the chain moving.
 - Turn screw clockwise to increase engine speed if engine stalls or dies.
 - Turn screw counterclockwise to slow engine down and/or to keep the chain from turning.
- c. No further adjustments are necessary if the chain does not move at idle speed and if performance is satisfactory.

⚠ WARNING

Recheck idle speed after each adjustment below. The chain must not move at idle speed to avoid serious injury.

3. LOW SPEED MIXTURE ADJUSTMENT

- a. Allow engine to idle.
- b. Turn the Low Speed Mixture Screw slowly clockwise until the RPM starts to drop. Note the position.
- c. Turn the Low Speed Mixture Screw counterclockwise until the RPM speeds up and starts to drop again. Note the position.
- d. Set the Low Speed Mixture Screw at the midpoint between the two positions.

4. ACCELERATION ADJUSTMENT

If engine dies or hesitates instead of accelerating, turn the Low Speed Mixture Screw 1/16 of a turn at a time counterclockwise until you have smooth acceleration.

5. HIGH SPEED MIXTURE ADJUSTMENT

CAUTION: Adjustments as small as 1/16 of a turn can affect engine performance. It is important to turn the screw only 1/16 of a turn per adjustment and test the performance of the saw before making further adjustments.

- a. Make a test cut.
- b. Adjust the High Speed Mixture Screw 1/16 of a turn as follows:
 - Clockwise if saw smokes or loses power
 - Counterclockwise if the saw has speed out of the cut but lacks power in the cut
- c. Repeat test cut.
- d. Continue 1/16 of a turn adjustments until the saw runs smoothly in cut.

CAUTION: A too lean high speed setting (clockwise adjustment) will cause engine damage to any 2-cycle engine from overheating and lack of lubrication. Never set the high speed mixture screw so far clockwise that you have high engine speed but lack power while cutting.

An effective approach follows:

- Turn screw counterclockwise until engine loses power while cutting.
- Then, turn screw clockwise in 1/16 of a turn increments *only until* the engine has power while cutting.

NOTE: If the saw will not operate properly after making these adjustments, take the saw to your Sears Service Center/Department.

F. STORAGE

When your saw is to be stored for over 30 days, always:

1. Run the fuel out of the fuel tank, carburetor, and fuel lines by starting the engine and allowing it to run at idle speed until it stops. (See "Fueling Your Engine.")

NOTE: If you do not want to remove the gasoline from your unit, SEARS CRAFTSMAN Fuel Stabilizer (#71-33500) may be added to gasoline left in the tank to minimize gum deposits and acids. If the tank is almost empty, mix stabilizer with fresh gasoline in a separate container and add to the tank.

NOTE: It is important to prevent gum deposits from forming in essential fuel systems parts such as the carburetor, fuel filter, fuel hose, or tank during storage. Alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage.

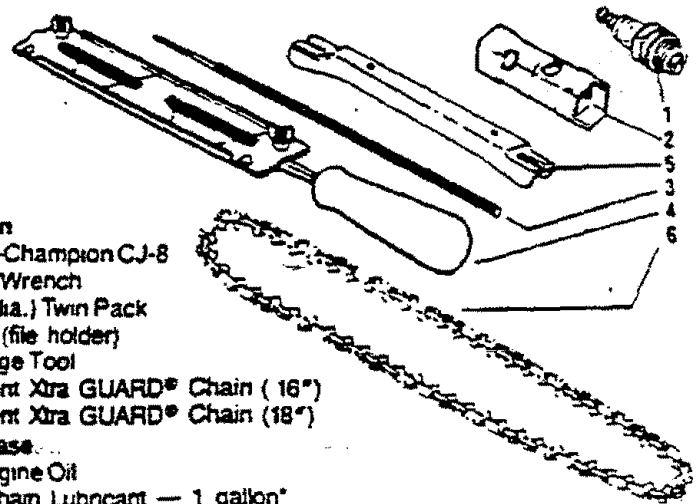
CAUTION: Wear protective gloves when handling the chain. The chain is sharp and can cut you even when it is not moving.

2. Drain oil tank.
3. Remove, clean, and dry the bar and chain.
4. To protect the chain from rust, store it in a container filled with oil.
5. Apply a coating of oil to the entire surface of the bar and wrap it in heavy paper, cloth, or plastic.
6. Clean the outside surfaces of the engine.
7. Store the saw in a dry place, out of the reach of children, and away from where fuel vapors can reach open flames from hot water heaters, furnaces, etc.

G. MAINTENANCE ACCESSORIES

Available through your nearest Sears Store, Catalog Sales Office, or Service Center/Department, but may not be furnished with your saw.

Key No.	Part No.	Catalog No.	Description
1	STD360946	71-36403	Spark Plug—Champion CJ-8
2	31059	—	Spark Plug Wrench
3	—	71-36524	File (5 32" dia.) Twin Pack
4	—	71-36565	File Guide (file holder)
5	—	71-36557	Depth Gauge Tool
6	—	71-3629	Replacement Xtra GUARD® Chain (16")
	—	71-3619	Replacement Xtra GUARD® Chain (18")
	—	71-36620	Carrying Case
	—	71-36555	2-Cycle Engine Oil
	—	71-36554	Bar and Chain Lubricant — 1 gallon*
	—	71-36556	Bar and Chain Lubricant — 1 quart*
	—	71-36366	Guide Bar-Lo-Kick® (16")
	—	71-36374	Guide Bar-Lo-Kick® (18")
	—	71-33500	Fuel Stabilizer



*Available through your Sears Service Center/Catalogue.

H. TROUBLE SHOOTING CHART

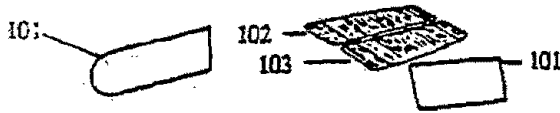
TROUBLE	CAUSE	REMEDY
ENGINE WILL NOT START	<ol style="list-style-type: none"> 1. Ignition Switch off. 2. Fuel tank empty. 3. Spark Plug not firing. 4. Engine flooded. 5. Fuel not reaching carburetor. 6. Compression low. 	<ol style="list-style-type: none"> 1. Move switch to "Start." 2. Fill tank with correct fuel mixture. 3. Install new plug/check ignition system. 4. See Starting Instructions. 5. Check for dirty fuel filter; clean. Check for kinked or split fuel line; repair or replace. 6. Contact your Sears Service Center/Department.
ENGINE WILL NOT IDLE PROPERLY	<ol style="list-style-type: none"> 1. Idle speed set too low. 2. Idle speed set too high. 3. Low speed screw requires adjustment. 4. Crankshaft seals worn. 5. Compression low. 	<ol style="list-style-type: none"> 1. Adjust idle speed screw clockwise to increase speed. 2. Adjust idle speed screw counterclockwise to reduce speed. 3. See Carburetor Adjustments. 4. Contact your Sears Service Center/Department. 5. Contact your Sears Service Center/Department.
ENGINE WILL NOT ACCELERATE, LACKS POWER, OR DIES IN THE CUT	<ol style="list-style-type: none"> 1. Air filter is dirty. 2. Spark plug fouled. 3. Carbon build-up on exhaust ports. 4. Carburetor requires adjustment. 5. Low compression. 	<ol style="list-style-type: none"> 1. Clean or replace air filter. 2. Clean or replace Spark Plug and regap. 3. Contact your Sears Service Center/Department. 4. See Carburetor Adjustments. 5. Contact your Sears Service Center/Department.
ENGINE SMOKES EXCESSIVELY	<ol style="list-style-type: none"> 1. Choke partially on. 2. Air filter dirty. 3. Oil rich fuel mixture. 4. High speed needle requires adjustment. 5. Crankcase leak. 	<ol style="list-style-type: none"> 1. Push Choke in. 2. Clean or replace air filter. 3. Empty fuel tank and refill with correct fuel mixture. 4. See Carburetor Adjustments. 5. Contact your Sears Service Center/Department.
ENGINE RUNS HOT	<ol style="list-style-type: none"> 1. Fan Housing dirty/cylinder fins dirty. 2. Fuel Mixture incorrect. 3. Spark Plug incorrect. 4. High Speed Mixture set too low. 5. Carbon build-up on spark arrestor screen. 6. Carbon build-up on exhaust ports. 	<ol style="list-style-type: none"> 1. Clean area. 2. See Engine Fuel Mixture. 3. Replace with correct plug. 4. See Carburetor Adjustments. 5. See "Spark Arrestor" 6. Contact your Sears Service Center/Department.
OIL INADEQUATE FOR BAR AND CHAIN LUBRICATION	<ol style="list-style-type: none"> 1. Oil tank empty. 2. Improperly adjusted oiler. (If so equipped.) 3. Oil pump or oil filter clogged. 4. Guide bar oil hole blocked. 	<ol style="list-style-type: none"> 1. Fill oil tank. 2. Adjust oiler. 3. Contact your Sears Service Center/Department. 4. Remove and clean bar.
CHAIN MOVES AT IDLE SPEED	<ol style="list-style-type: none"> 1. Idle speed requires adjustment. 2. Clutch requires repair. 	<ol style="list-style-type: none"> 1. See Carburetor Adjustments. 2. Contact your Sears Service Center/Department.
CHAIN DOES NOT MOVE WHEN ENGINE IS ACCELERATED	<ol style="list-style-type: none"> 1. Chain tension too tight. 2. Carburetor requires adjustment. 3. Guide bar rails pinched. 4. Clutch slipping. 	<ol style="list-style-type: none"> 1. See Chain Tension. 2. See Carburetor Adjustments. 3. Repair or replace. 4. Contact your Sears Service Center/Department.
CHAIN CLATTERS OR CUTS ROUGHLY	<ol style="list-style-type: none"> 1. Chain tension incorrect. 2. Cutters damaged after striking foreign material. 3. Chain wear due to contact with dirt, sand or frozen wood. 4. Cutters dull, improperly sharpened; depth gauges too high. 5. Sprocket worn. 	<ol style="list-style-type: none"> 1. See Chain Tension. 2. Contact your Sears Service Center/Department. 3. Resharpener or replace chain. 4. See Chain Sharpening Instructions. 5. Contact your Sears Service Center/Department.
CHAIN STOPS WITHIN THE CUT	<ol style="list-style-type: none"> 1. Chain cutter tops not filed flat. 2. Guide bar burned or bent; rails uneven. 3. Clutch slipping. 	<ol style="list-style-type: none"> 1. See Chain Sharpening Instructions. 2. Repair or replace Guide Bar. 3. Contact your Sears Service Center/Department.
CHAIN CUTS AT AN ANGLE	<ol style="list-style-type: none"> 1. Cutters damaged on one side. 2. Chain dull on one side. 3. Guide bar bent or worn. 	<ol style="list-style-type: none"> 1. Resharpener until all cutters have equal angles and lengths. 2. Resharpener until all cutters have equal angles and lengths. 3. Replace guide bar.

I. MAINTENANCE CHART

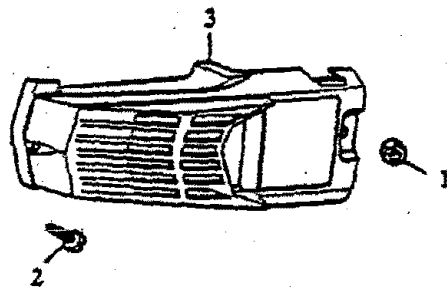
		before starting work	after finishing work or daily	weekly	monthly
Complete machine	Visual inspection (condition, leaks)	x		x	
	Clean		x		
Throttle trigger, safety throttle lock, stop switch	Check operation	x		x	
Filter in fuel tank	Replace — when clogged or dirty				
Chain lubrication	Fill	x		x	
Saw Chain	Inspect (sharpness, wear, damage)	x		x	
	Check chain tension	x		x	
	Sharpen — when dull				
Guide bar	Inspect (wear, damage)	x			
	Clean groove				x
	Deburr — when needed				
	Replace — when worn or damaged				
Chain sprocket	Check				x
Air Filter	Clean	x			
	Replace — when worn or damaged				
Cylinder fins	Clean				x
Carburetor	Check idle adjustment — chain must not turn	x			
Spark plug	Replace — when fouled or damaged				
All accessible screws and nuts (not adjusting screws)	Tighten	x			
Vibration mounts	Inspect (tears, rips, separation, out-of-round)				x
	Replace — when worn or damaged				
Spark arrestor screen	Inspect				x
	Replace — when worn or damaged				

NOTES

**SEARS CHAIN SAW REPAIR PARTS - MODEL NO. 358.357182-2.3/18" CVA
 MODEL NO. 358.355063-2.3/16" CVA
 MODEL NO. 358.357231-2.3/18" CVA**



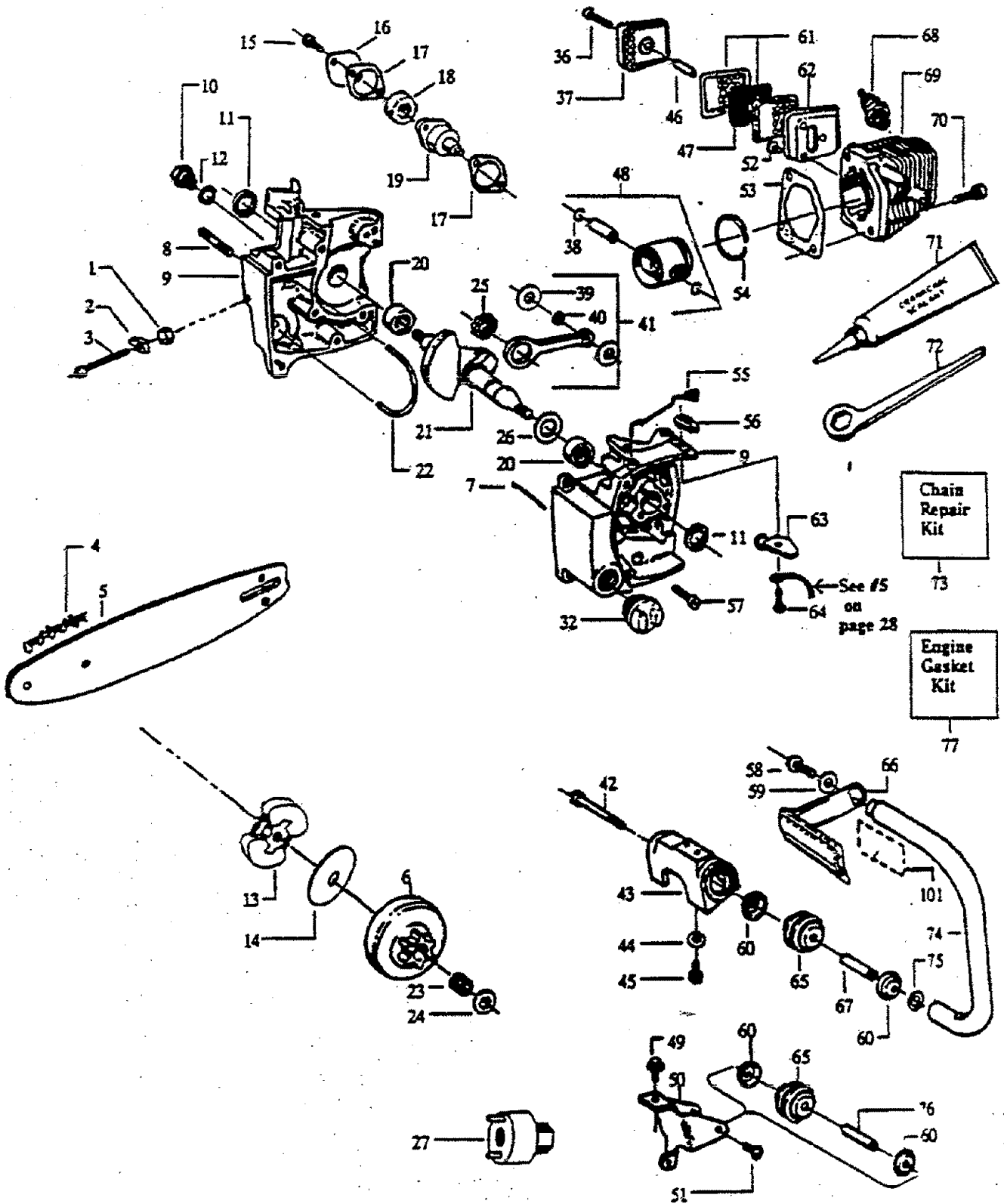
Key No.	Part No.	Description
1	STD541431	Nut
2	S30-015623	Screw
3	S30-037103	Bar Clamp Hsg.



Decals		
101	S30-037102	Bar Clamp Hsg. Decal
	S30-037101	Model 358.357231
102	S30-037095	Inst. Decal (Left) (Left Half)
103		Instructions Decal R
	S30-037100	Model 358.357182
	S30-037099	Model 358.355063
	S30-037097	Model 358.357231

NOTES

SEARS CHAIN SAW REPAIR PARTS - MODEL NO. 358.357182-2.3/18" CVA
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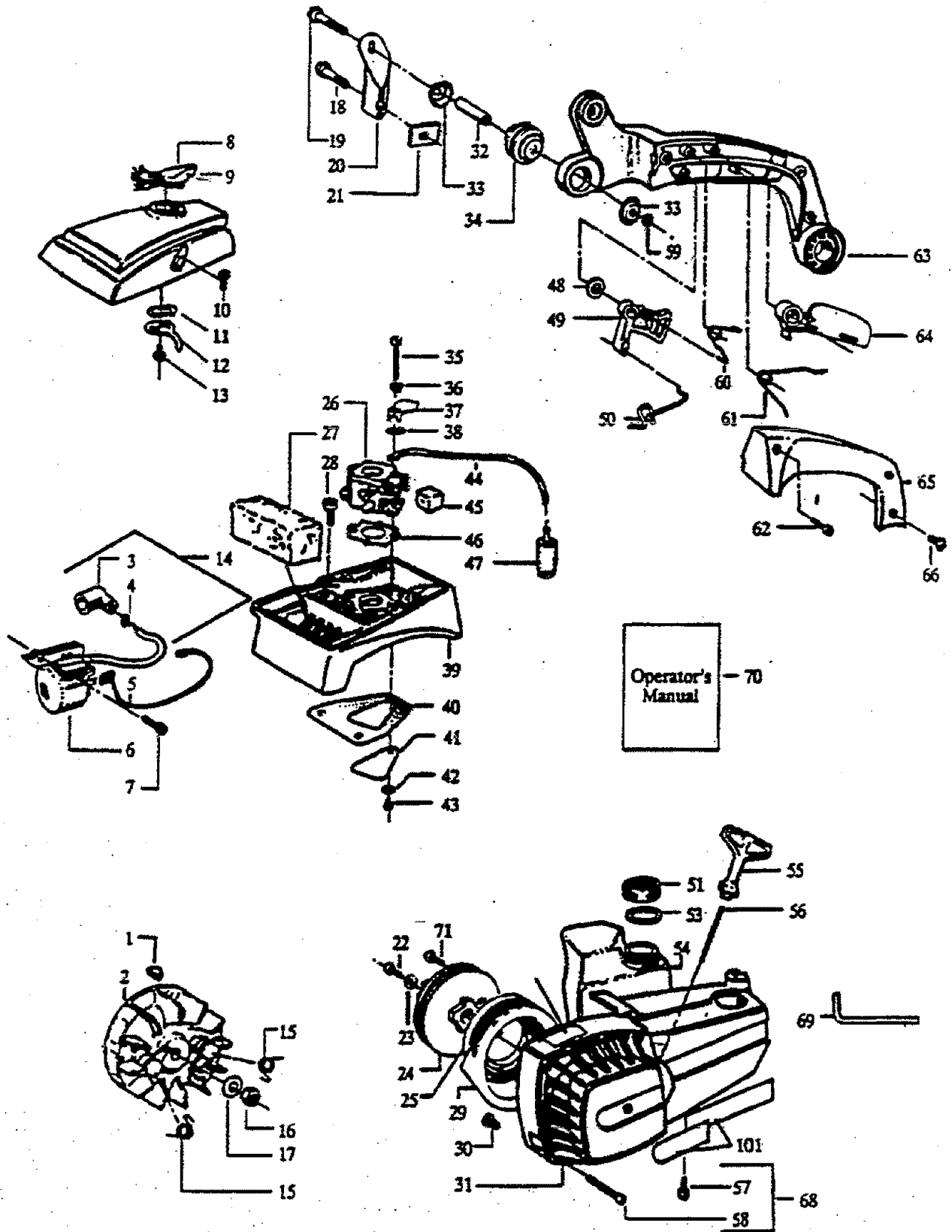


**SEARS CHAIN SAW REPAIR PARTS - MODEL NO. 358.357182-2.3/18" CVA
 MODEL NO. 358.355063-2.3/16" CVA
 MODEL NO. 358.357231-2.3/18" CVA**

Key No.	Part No.	Description	Key No.	Part No.	Description
1	STD541408	Locknut	42	S30-015551	Screw
2	S30-023492	Bar Adjust. Pin	43	S30-025689	Lower Isolator Bracket
3	S30-015236	Screw	44	STD551010	Washer
4	-	Chain	45	S30-015557	Screw
	71-3619	18" Model 358.357181 & 358.357230	46	S30-023535	Spacer
	71-3629	16" Model 358.355062	47	S30-023796	Spark Arrestor Screen
5	-	Bar	48	S30-010588	Piston Kit (Incl. #38, 54 & pin)
	71-36374	18" Model 358.357181 & 358.357230	49	S30-015426	Bolt
	71-36366	16" Model 358.355062	50	S30-027687	Rear Isolator Bracket
6	S30-069166	Clutch Drum & Bearing Kit (Incl. #23)	51	STD522505	Screw
7	S30-036450	Oil Tank Vent Pin	52	STD511005	Screw
8	S30-015642	Bar Mtg. Stud	53	S30-019139	Cylinder Gasket
9	S30-014742	Crankcase Ass'y. (Incl. # (Incl. 1-3, 7, 8, 11, 12, 20, 32 & 36))	54	S30-025876	Piston Ring
10	S30-069142	Check Valve Kit-Oil Tank Pressure (Incl. #12)	55	S30-024236	Switch Knob Ass'y.
11	* S30-019059	Crankshaft Seal	56	S30-023786	Switch Ramp
12	* S30-019089	Check Valve Gasket	57	STD511007	Screw
13	S30-069193	Clutch Ass'y Kit (Incl. Washer)	58	S30-015499	Screw
14	S30-069197	Clutch Washer Kit (Outside)	59	STD551025	Washer
15	STD510805	Screw	60	S30-026163	Isolator Cup
16	S30-023802	Metering Body Cover	61	S30-023797	Muffler Baffle
17	* S30-019091	Metering Body Gasket	62	S30-023794	Muffler Body
18	* S30-023801	Oil Filter	63	S30-023787	Switch Clamp
19	S30-010195	Metering Body Ass'y.	64	STD610805	Screw
20	S30-032029	Crankshaft Bearing	65	S30-024256	Isolator
21	S30-022172	Crankshaft	66	S30-025451	Handguard
22	S30-021026	Oil Discharge Line	67	S30-015342	Spacer
23	S30-032079	Clutch Bearing	68	STD360946	Spark Plug-CJ-8
24	S30-023519	Clutch Spacer (Inside)	69	S30-012065	Cylinder
25	S30-032065	Roller Bearing (Incl. 12 bearings)	70	S30-015239	Screw
26	S30-023887	Thrust Washer	71	S30-030054	Crankcase Sealant (Optional)
27	S30-031112	Clutch Tool - Optional	72	S30-031063	Bar Adjusting Tool
32	S30-025368	Oil Cap Ass'y. (Incl. "O" Ring w/ Retainer)	73	S30-052023	Chain Repair Kit
36	STD511015	Screw	74	S30-025675	Handlebar w/Insert
37	S30-023795	Muffler Cover	75	S30-015531	Washer
38	S30-023843	Retainer	76	S30-015343	Spacer
39	S30-015486	Washer	77	S30-069022	Engine Gasket Kit (*Indicates Contents)
40	S30-032075	Bearing Rod (Top) (Incl. 22 Bearings)			
41	S30-010474	Connecting Rod Kit (Incl. #39 & 40)			
			Decals		
			101	S30-026849	Handguard Decal
			Not Shown		
				S30-026550	Chain Tensioning Decal
				S30-036181	Scabbard

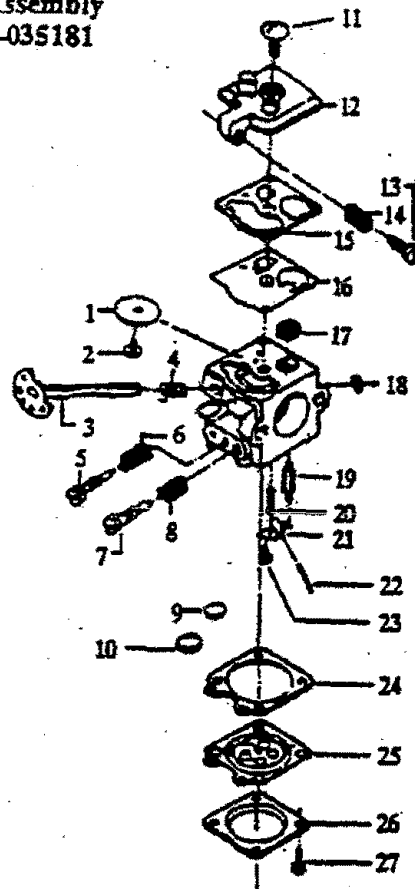
*Indicates Contents of Engine Gasket Kit, Key No. 77.

SEARS CHAIN SAW REPAIR PARTS - MODEL NO. 358.357182-2.3/18" CVA
 MODEL NO. 358.355063-2.3/16" CVA
 MODEL NO. 358.357231-2.3/18" CVA



SEARS CHAIN SAW REPAIR PARTS - MODEL NO. 358.357182-2.3/18" CVA
 MODEL NO. 358.355063-2.3/16" CVA
 MODEL NO. 358.357231-2.3/18" CVA

Carburetor Assembly
 Part No. 530-035181



Carb. Repair Kit
 28

Carb. Gasket Kit
 29

Key No.	Part No.	Description	Key No.	Part No.	Description
1	530-035006	Valve Throttle	16	+ 530-035166	Fuel Pump Diaphragm
2	530-035015	Screw	17	530-035027	Fuel Inlet Screen
3	530-035034	Throttle Shaft Ass'y.	18	530-035007	Throttle Retainer Ring
4	530-035024	Throttle Return Spring	19	* 530-035008	Inlet Needle Valve
5	530-035171	Low Speed Mixture Needle	20	* 530-035188	Metering Lever Spring
6	530-035023	Low Speed Mixture Needle Spring	21	* 530-035031	Metering Lever
7	530-035169	High Speed Mixture Needle	22	* 530-035028	Metering Lever Pin
8	530-035167	High Speed Mixture Needle Spring	23	* 530-035016	Screw
9	* 530-035162	Plug 5/16 Dia. Welch	24	+ * 530-035165	Metering Diaphragm Gasket
10	* 530-035163	Plug 1/4 Dia. Welch	25	+ * 530-035014	Metering Diaphragm
11	530-035017	Screw	26	530-035003	Metering Diaphragm Cover
12	530-035159	Fuel Pump Cover	27	530-035021	Metering Cover Screw Ass'y.
13	530-035035	Screw	28	530-035161	Carb. Repair Kit (Includes Parts Marked*)
14	530-035168	Idle Speed Adjusting Screw Spring	29	530-035173	Carb. Gasket/Diaphragm Kit (Includes Parts Marked +)
15	+ 530-035164	Fuel Pump Gasket			

QUICK REFERENCE PAGE

*Read and follow all Warnings and Safety Instructions.
Failure to do so can result in serious injury.*

	page
SAFETY RULES AND PRECAUTIONS	3, 4 & 5
PREPARATION	4

1. Wear protective gear — gloves; safety footwear; snug fitting clothing; and eye, hearing, and head protection.
2. Check saw for worn, loose, missing, or damaged parts and repair or replace if necessary.
3. Check the chain for sharpness and tension.
4. Keep children, bystanders, and animals a minimum of 30 feet away from the work area.
5. Plan your sawing operation carefully in advance.

FUEL AND OIL	9 & 10
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1. Eliminate all sources of sparks or flame where fuel is mixed, poured, or stored.
2. Use 40 parts regular, unleaded gasoline to 1 part air-cooled, 2-cycle engine oil.
3. Use gasoline not over 2 months old.
4. Mix and pour fuel in an approved, marked container and in an outdoor area.
5. Move a minimum of 10 feet away from fuel and fueling site before starting engine.
6. Fill the oil tank each time the fuel tank is refueled.

STARTING THE ENGINE	11
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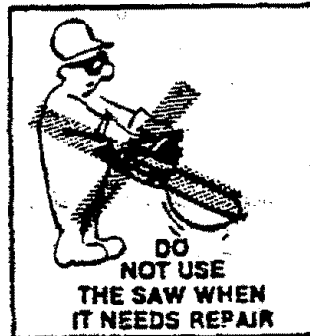
1. Hold saw firmly with the saw chain free to turn without making contact with any object.
2. Push saw away from you with your right hand while pulling the starter rope with your left hand.
3. Use less than the full extent of the starter rope per pull.
4. Pull rope no more than 5-6 times.
5. Release the trigger after engine starts allowing engine to idle.

OPERATING THE SAW	11
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1. Cut wood only.
2. Accelerate the engine to full throttle before entering the cut.
3. Begin cutting with the saw frame against the log.
4. Cut only at full throttle.
5. Release the trigger as soon as the cut is completed.
6. Stop the engine before setting the saw down after cutting.

MAINTENANCE	18
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1. Adjust or have the carburetor adjusted if the chain moves when the engine idles.
2. Disconnect spark plug before performing maintenance except for carburetor adjustment.
3. Check the guide bar for wear each time the chain is sharpened.
4. Clean the air filter frequently and always after 10 tanks of fuel mixture or 5 hours of operation, whichever is less.
5. Run fuel from the fuel tank before storing the unit for 30 or more days.
6. Store saw in a dry place out of the reach of children.



SEARS Operator's Manual

MODEL NO.
358.355063-
2.3/16" CVA

358.357182-
2.3/18" CVA

358.537231-
2.3/18" CVA

How to Order Repair Parts

SEARS SERVICE

The Model Number will be found under the handle with the Serial Number. Always mention the Model Number when requesting service or repair parts for your Chain Saw.

All parts listed herein may be ordered from any Sears Service Center/Department and most Sears Stores.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN IN THIS LIST.

1. The PART NUMBER
2. The MODEL NUMBER
358.355063-2.3/16" CVA
358.357182-2.3/18" CVA
358.537231-2.3/18" CVA
3. The PART DESCRIPTION
4. The NAME OF ITEM —
Chain Saw

If the parts you need are not stocked locally, your order will be transmitted to a Sears Repair Parts Distribution Center for handling.



When you buy merchandise from Sears you get an extra value that nobody else can offer ... Sears Service.

Across town or across the country, Sears Service is always near, providing trustworthy, competent service technicians using only Sears specified factory parts.

SEARS / CRAFTSMAN

CHAIN AND BAR LUBRICANT

Available in Gallons (#71-36554)
and in Quarts (#71-36556) at your
nearest Sears Store, Catalog
Sales Office, or Service Center.



Sears, Roebuck and Co., Chicago, ILL 60684 U.S.A.

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